

BIRD STUDY IN INDIA



M.R.N. HOLMER

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BY

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WITH AN INTRODUCTION

BY

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TO

J.M.N. ; M.H. ; F.E. ; W.H.H.—on that side ;

AND TO

F.G.H. ; G.W.T. ; M.L.H.—on this :

WITH GRATITUDE.

M.R.N.H.

PREFACE TO FIRST EDITION

PRIMARILY, I write this book because I want to : and I shall publish it if people who ought to know think it worth while. But there are reasons why *this* book rather than another : and these reasons I now give.

If you want to read about the common birds of India, there are plenty of books for you, many of them of high value—notably those of dear old EHA and of Mr. Douglas Dewar. If you go shooting and want to know the names and habits of the birds you shoot—or at least seek to shoot—again there are many lesser books available (Le Messurier's "Game, Shore and Water Birds" for example), as well as the classic, Hume and Marshall's (3 vol.) "Game Birds". If you want to study birds in India seriously, and have had a fair zoological training, there are the four volumes of "The Fauna of British India" (Oates and Blanford) where you will find every feather of every bird described.

But you may very well belong to classes (1) and (3) —or to none of the above classes—and yet sincerely want another book on birds. You may have a keen interest in things-in-general, or in beautiful things or living things in particular, combined with the type of intellect which makes you want to *work* for your knowledge and feel power to add to it systematically. In this case, when you have picked up the names of

half a dozen striking Indian birds, you will meanwhile have noted the appearance and habits of twice as many, and wish to identify them. Yet unless you have been previously a student of the Natural Sciences, your energy may well flag at an assault on either of the "big" books I have mentioned, whose very excellence and exactitude may make it difficult for the uninitiate to "see the wood for the trees".

This book, then, aims at being a middleman, to link the stage of popular knowledge of a few birds, picked up from talk or from descriptive books, with the scientific knowledge which can cheerfully attack large ornithological treatises. The outdoor experience of the author was gained chiefly in Northern India; but the book covers most of the commoner birds of a wider range.

But it isn't merely *a book to read*: it is *a book to work with*, a laboratory book; where the laboratory is the open air of the compound, park, jungle or hill-forest, and the "specimens" the living, speaking joys, our "little brethren", the "birds in the bush", *not* bird skins or "set-up" birds in a museum.

M. R. N. H.

Postscript.

Since the "Fauna of British India", Birds, Vols. 1 and 2 Oates, 3 and 4 Blanford, is at present the only authoritative reference book for all Indian birds, I use the classification and nomenclature adopted in this work. Further, I have as far as possible observed the same convention with regard to capitals and small

type, *i.e.*, that the popular title of a species, or the name given in English in the F. B. I., has capitals throughout—thus, Little Brown Dove—while the technical name has the generic name with a capital initial, the specific with a small initial, even though derived from a proper name—thus *Urocissa flavirostris* and also *Dendrocitta himalayensis*. Where speaking loosely of a group of birds by a popular name, e.g., tits, wagtails, finches, I use small initials as in ordinary non-technical usage.

London, 1922.

PREFACE TO SECOND EDITION

I AM glad to take the opportunity offered by a second edition to thank the ornithologists who have reviewed the first edition of this book (called then, as I think mistakenly, "Indian Bird Life") for their kindly appreciation of my double aim: which is both, as one reviewer has put it, to be "a concise guide to the birds of India", and, as another says, "to supply . . . an introduction to the science of ornithology". That is it: if the "guid to identification" had been my sole aim, I could have referred my friends and pupils to Mr. Dewar's "Key", at least for the birds of the Plains. But, small though this book is, it is in some humble sort a primer in the science of ornithology; and if it be true, as one of the critics says, that "in the end, a clear and living picture has been formed of the more familiar . . . birds of the region, and classical works of ornithology . . . can be turned to with greater profit", my deeper aim has been fulfilled—to share with others the naturalist's joy in living and beautiful fellow-creatures, and to make it easy for those who have not had a scientific training to gain the minimum of special knowledge needed to open this wide field to their further exploration.

I set out to make the smallest book that could fill this rôle; and perhaps this statement answers those of

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my critics who rebuke me for not giving more information about birds' habits or their nests and eggs. Similarly, in reply to that critic who found my "commonest vulture" was not his "commonest": these things must needs vary in so vast a continent, and I tried to make it clear that my chief experience was gained within the three northern provinces of India, with a few expeditions to Bombay-side. This range seems likely to be useful not only to the Indian students of those provinces, but also to many American and European tourists and temporary residents. I am told that the book has proved useful also in Central and Southern India.

As two volumes of a new edition of the birds' section of "The Fauna of British India" have now appeared, I have revised the lists at the end of the earlier chapters to include reference to these, giving the new names assigned to species where these differ so much from the old ones as to make this necessary. I have also put footnotes in the text where the new edition makes an important change in classification, as in the separation of the Tits into a distinct family from the Crows. Where, in these lists, two English names are given, it is because the one in common colloquial use in India is not that given in the "Fauna", e.g., King Crow (Black Drongo).

My hearty thanks are due to the officials at the Zoological Society's Library, as also to those of the Bird Room of the British Museum (South Kensington). For the illustrations I am indebted to the sympathy and skill of Miss Kathleen Nixon.

Mr. Douglas Dewar appeared anonymously among the "many naturalists and scientists" to whom my gratitude was offered in the first edition; but, as he was my first helper in India (both personally and in his books) in getting past the "sticking point" indicated in my first chapter, I owe him very special gratitude. I have asked him if I may refer here to his "Birds of an Indian Village". If it had appeared before 1920 I should probably not have projected this book. But their aim and range are not the same: those who have enjoyed "Village Birds", will find, I hope, that they can go on to conquer fresh fields with the help of this guide.

How much kindness, from how many other friends of India, has gone to the making of this little book, I can neither acknowledge nor assess; least of all its debt, and mine, to Colonel John Stephenson.

M. R. N. HOLMER.

Bloomsbury, London.

October, 1925.

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INTRODUCTION

“STUDIES serve for delight, for ornament, and for ability”, said Bacon. Instead of “ability”, we should in these days probably say “use”, which indeed is pretty nearly what Bacon meant. But with this question of use we are not now concerned; in any case, Bacon puts delight first,—where it should be; for delight is the first and most important end we have, or should have, in view, in all our studies of whatever kind. And this holds even for strictly utilitarian studies. I would rather put myself in the hands of a doctor whose work was primarily his delight, and who was a doctor because he liked being one, than in the hands of one whose first and conscious object was to do good. “For to miss the joy is to miss all”, as R.L.S. said—though in a somewhat different connection.

And the study of birds, more even than most other studies, is pre-eminently one of delight. We know from high authority that the pursuit of Pure Mathematics gives an artistic pleasure, and that the contemplation of a well arranged demonstration (“elegant” is, I believe, the usual adjective) satisfies the æsthetic sense. An engineer will find a similar pleasure in the designing of his machinery, and in the contemplation of the finished product; and anyone who reads the life of Erasmus will find there an example of the delight—

may more, the burning enthusiasm— which the minute study of classical texts, the pursuit of that pure scholarship which is typified in textual criticism of the sources, roused in the scholars of the Renaissance. Or Browning's Grammarian will serve the same purpose.

But these studies are not, perhaps, what the ordinary person feels drawn to, when he seeks for some pursuit to give interest to his leisure, some occupation to which he can look forward each day, something with no flavour of the forced studies of his school and college days. In taking up a study for his private delight he mostly wants something a little warmer, something which seems to him a little less abstract and more living. If this is so, he will be well advised, and richly repaid, if he engages in the study of birds.

There are several springs of interest which contribute to make the Study of Birds a delight. There is—what of course comes first of all—the mere identification of the individuals that present themselves; the pleasure is of the same kind as the satisfaction one feels, on the top of one of the Lakeland hills, in recognising and naming all the surrounding peaks within view, or in learning from the map to do so. Allied to this is the satisfying of an instinct that most of us possess, in one or other form—that of the collector. Miss Holmer does not advise the actual formation of a collection of stuffed specimens, nor do I; speaking personally, such a collection would not interest me in the least. But to keep a list of records, and to see it grow, and year by year attain to something like completeness for one's particular station, district, or province—this in my own

case (I speak of another group of animals with which I have had more to do than with birds, as well as of amateur studies in field Botany), is just as much a satisfaction as the possession in bottles or in a herbarium of the specimens themselves. Next there is the observation of habits and mode of life, and the determination, too, of whether their activities are beneficial or injurious. And lastly and chiefly of all, there is the æsthetic pleasure gained from looking at lovely things, lovely both at rest and in motion; and from the sympathetic feelings their actions rouse in us as we observe them—their little quarrels, their advances towards us or towards each other, their conscious vanities, their affectionate play.

In parenthesis, I am not altogether happy in leaving my last few words as they stand. I am not certain how far we ought to credit birds with feelings similar to our own—how far it is legitimate, therefore, to allow ourselves in the sympathetic emotions I spoke of. No owl could ever be as wise as it looks—no human being, even, could ever be so wise; and can we then argue from appearances with any greater probability when our birds seem vain, or haughty, or affectionate?

For the Englishman in India some study "for delight" is essential. He loses much when he leaves this country; he has to give up, probably, several of his intellectual pursuits, or to be satisfied with a lower level of accomplishment. His facilities for the enjoyment of music, and of the theatre, will certainly be much restricted; he can no longer meet his fellows of similar pursuits in his special clubs and societies. Instead of

being able to exchange ideas and gain new knowledge, for example, every fortnight at the Zoological Society, he may find himself five hundred miles away from his nearest zoological neighbour.

But there are compensations. He may gain quite as much as he loses ; he may find in the classical and vernacular languages of India, in its literatures, religions and folklore, an equivalent for the classical and modern languages and literatures of Europe. Not altogether letting go his previous acquirements, he may even—by taking up, in addition, other studies for which he had previously no facilities—lead a fuller life than before. Especially, the naturalist will gain more than he loses ; he will find himself surrounded with new material—material which simply presses itself upon him ; so insistently indeed that many who were not naturalists before discover a taste for natural history in India. In the smaller stations, where the opportunities for the cultivation of intellectual pursuits are most limited, natural history comes as a particular boon ; not only is the need greatest, but the opportunities for supplying the need are most ample. And the study of birds is the side of natural history which first presents itself, and which will hold the enthusiasm of the majority and hold it longest.

I would hope, too, that Miss Holmer's book may come into extensive use in the schools of northern India. Studies "for delight" may soon find a place in the curriculum, or may even now be represented there ; and there could be no more suitable study than that of birds, undertaken under Miss Holmer's

guidance. It may not help those who engage in it to pass the University Matriculation, and it may not help them to get a living ; but it *will* help them to *live*.

Had Miss Holmer been in India still, I would have suggested to her another book which she is very competent to write, and which is equally needed with the present one—a Botany of the plains, on the same lines ; but I suppose we shall not now get such a book from her. As to the present one, it has already earned, in its first edition, the hearty praises of those who have seen it and needs no words from me. I wish it had appeared during the time when I was myself in India ; my knowledge of Indian birds would not then have been so woefully deficient as it is. We do not read far before we feel that it has been a joy to the author to write it ; may many successive generations of readers find it a joy to use, both in their excursions abroad and in the familiar surroundings of their own homes.

J. STEPHENSON.

PART I

BIRDS OF THE PLAINS

FAMILIAR BIRDS OF THE COMPOUND

" I HARDLY know a crow from a robin, but I *should* like to know what you call that great scolding blue bird ", said a sprightly American tourist to her friend domiciled in India : and was much pleased to hear she might call him the Blue Jay, and that his vernacular name is *nilkant*, for which she made some fanciful connection with "*eau de Nil*".

Still more if an American or European newcomer to India have taken an interest in his home birds is he bound to ask the name of those striking birds which, while new to him, are familiar to his Indian friends and associates. Such birds are the Blue Jay (Common Indian Roller), the Rose-ringed Paroquet, the Green Bee-eater, the King Crow, the Pariah Kite, and one or more species of Vulture ; and these accordingly are introduced in this chapter.

But another set of birds will equally attract attention from the western visitor to India : those which are recognisably like old friends of temperate climes : the crows, wagtails and mynas, for example, or those whose common English name, as " robin " or " dove ", is clearly justified by a more or less near relationship to the well-known species so-called " at home ".

Equally, the Indian student, whether of arts, science or medicine, or the keen and intelligent agriculturalist, or even the vigorous schoolgirl or schoolboy, often knows such birds as the *nilkant*, *chāl*, *gidh*, both by vernacular and English names, yet finds it difficult to learn much more without some help. For such students, this chapter aims to make a fresh starting-point in a pursuit which will not merely add greatly to his out-door interests, but will cause many references in his literary or scientific studies to come alive for him : he will realise that the names of birds are no mere labels, and will find that Shelley's " blithe spirit ", the skylark, or that " wandering voice ", the cuckoo, are to be hearkened to and rejoiced in under his own skies, while many strangely lovely sights are his own special birthright.

.

To recur, then, to the Blue Jay with which my American friend began ; there is hardly a compound, or patch of open ground, even in cities, where he may not be seen, and it is difficult to ignore a bird of his size and brilliance ; more than a foot in length, with wings which when spread show two bright shades of blue, turquoise and " royal " or " Oxford ", in contrast with the pinkish chestnut of his body feathers. His harsh scolding voice serves still more to draw attention, and to suggest kinship with the true Jay ; but he is actually a Roller.

The Rose-ringed Paroquet, with rose-coloured hooked beak, vivid green general plumage and long tail, calls for no further description : less common wild



BEE-EATER AND YOUNG.

in town surroundings than the Blue Jay, it is so well-known in captivity as to be readily recognised. In flight, the flash of vivid green, the elongated tapering form, and the shrill cry, are all equally characteristic.

The Green Bee-eater is a small, slim bird with the dashing, swooping movements of a swift or a swallow ; its whole upper plumage is emerald green or, in the neighbourhood of the beak, turquoise blue, while the under-plumage seems washed with red-gold. Two striking features are its long thin beak and the greatly elongated black-tipped feathers in the middle of the tail. But it is not a constant feature of every Indian compound ; and it is interesting to watch for its coming, and to note when groups of the beautiful creatures may be seen hawking for insects under the trees and over the garden shrubs, and to determine how long their stay is before they shift South or North.

The other two " familiars " I have mentioned, the Pariah Kite (*Chil*) and vultures, are striking contrasts to the above three bright-plumaged birds. The female Pariah Kite is a great, bulgy, brown bird, two feet long, and heavily built ; while the male is much smaller, the forked tail appearing proportionately longer, and is not only of much less fighting weight, but is much less quarrelsome. Indeed, he is a timorous creature, and although he attacks small and disabled birds and even baby squirrels, he is easily disconcerted by the shrieking, swooping attacks of the *Kōtwal* or King Crow (Black Drongo). This is a smallish, glossy black bird, with a remarkably long tail, branching outwards at the

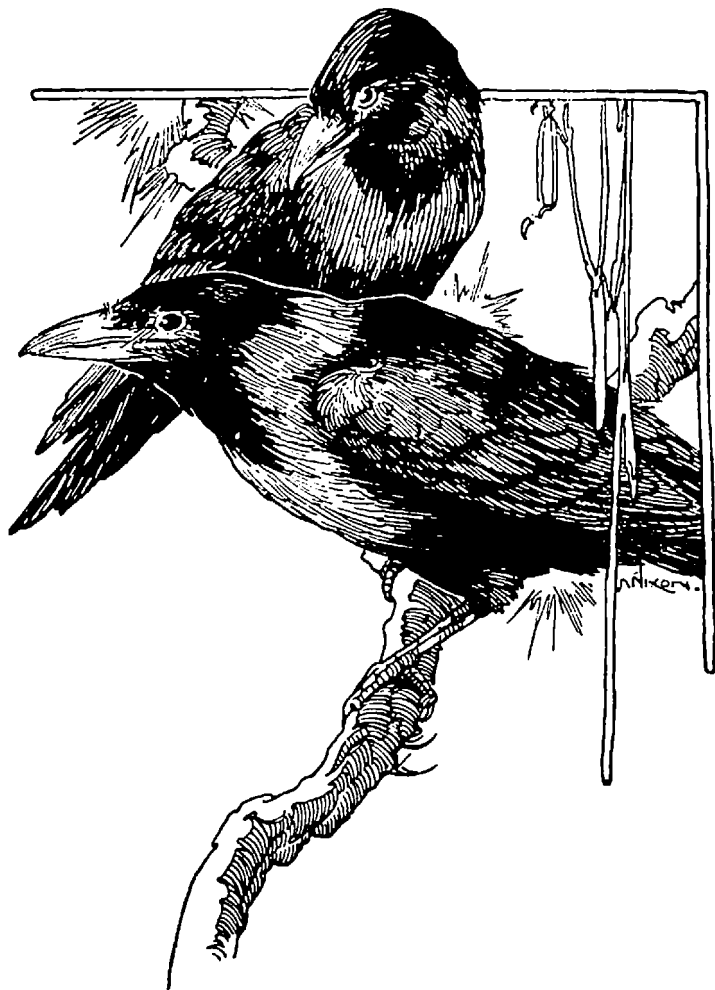
tip; he haunts the telegraph wires or the summits of trees, and swoops thence not only after insect prey, but, frequently, after Kites or Crows which he "chivvies" with vociferous sallies. Why he "chivvies" them, still more, why he is so successful in intimidating them that they always flee before him, I can't find out; but it must be a case of "Conscience doth make cowards of us all", for one can't imagine that the little black bird with a body about the size of that of a thrush could have a chance if a Kite or a Crow really tried conclusions with him.

The commonest vulture about the Indian compounds of my experience, is the Scavenger Vulture or Egyptian Vulture, which is often known as "Pharaoh's Chicken"; but in many parts, it appears, the Indian White-backed Vulture (cf. Ch. IV) is more common. The White Scavenger Vulture, "Pharaoh's Chicken", is about the size of a hen kite, *i.e.*, two feet from beak-tip to tail-tip, with a wing stretch of between three and four feet. It is beautiful when in flight, the plumage appearing pure white and black, and the beak, when caught by the sun, golden; while its slow wheeling movements or sudden swoops are as graceful as those of sea-birds. But in near view its tiny brainless-looking head, greedy eye and cruel beak, are in themselves disgusting, while its plumage, white in the distance, is in reality of a dirty grey mixed with brown, and always looks dishevelled. The young vultures are brownish and speckly, a family group showing as many varieties of plumage between dark-brown and pure white-and-black as a group of sea-gulls may.

The crows and mynas are hardly possible to ignore, for both of them not only make their way into our verandahs, but will walk round our tea-tables and pick up our crumbs ; indeed, unless the *khit* keeps a sharp look-out after he has made his outdoor table ready, we shall find the crows at least have been beforehand, and left the crumbs for us !

The Common Indian House-crow is a large heavy-billed blackish bird, like his cousins of the West, the Rook, Crow, and Jackdaw ; he wears a pinkish-grey mantle from the nape of his neck over his shoulders and chest, so that while the remainder of his plumage is iridescent black, he does not at first sight deserve to be called " splendid ", as he is, in Latin, in his scientific name ; indeed, " insolent ", the specific name of the Burmese variety, is the qualification that would strike most people as more appropriate, as they remember how he picks scraps from the very plates as the *khit* carries them away from the table.

The Common Myna is a black and chocolate-brown bird with a bare yellow patch near its eye and a white streak on its wing, which walks about on the grass, digging for grubs, and constantly tires us with its " Chowky-chowky-chowkydar ! Cree-cree-cree-ee-ee " ! cry ; it is like a starling in its walk, its impudent intelligence, and its nesting habits (any hole in your house will do, best the *bawarchi kamra*, as being nice and warm, if March is cold). No one who has made a friend of the glossy speckly Stare will be astonished to hear that the Myna also may be taught to speak, and is a favourite of the house-servants.



HOUSE CROWS.

The Wagtails are more modest, and keep their distance from the house, though they will follow the *mali*, whether with the hose or the dibble ; and when the lawn has been flooded, they will paddle in the water with huge enjoyment, dipping their heads and shaking their long pied tails with the exact " dish-washing " action of the Western " Peggy-dish-washer ". There are many species of wagtail in North India—eight in the Punjab, according to Mr. Lawrence, than whom none knows better : but the commonest seems to be the Masked Wagtail, which, except that there is more grey about him, closely resembles the Pied one. In the United Provinces, some of the yellow-breasted wagtails seem equally common. But all, whether plain black and white, grey and yellow, or yellow and brownish green, have the same slim build, long tail, mincing walk and water-loving habits ; and " wagtail " is in itself the beginning of a good list of distinguishing characters.

So, if the newcomer to India or student who has already learnt the *nilkant*, the *gidh*, and the *kauwa*, will check off the other birds of this chapter in the next few days or weeks, he is on his way to being an ornithologist ; who is, after all, only a *walla* with some organised knowledge of birds, which is exactly what this book aims at making of its readers. But at this point it is worth while to think over the features which make it possible to distinguish one bird from another, not in a museum or a cage, but living and in the open.

BIRDS MENTIONED IN CHAPTER I

<i>English Name</i>	<i>Scientific Name</i>	<i>Fauna of Brit. India</i> <i>Ed. I. Ed. II.</i>
Blue Jay (Indian Roller)	<i>Coracias indica</i>	III., 103. n.p.
Rose-ringed Paroquet	<i>Palæornis torquatus</i>	III., 250. „
Common Indian (Green) Bee-eater	<i>Merops viridis</i>	III., 110. „
Common Pariah Kite	<i>Milvus govinda</i>	III., 374. „
King Crow (Black Drongo)	<i>Dicrurus ater</i> (D.m. <i>macrocerus</i>)	I., 312. II. 356.
Pharaoh's Chicken (Scavenger Vulture)	<i>Neophron ginginianus</i> (<i>or percnopterus</i>)	III., 327. n.p.
Common Indian House Crow	<i>Corvus splendens</i>	I., 17. I., 33.
Common Myna	<i>Acridotheres tristis</i>	I., 537. n.p.
Masked Wagtail	<i>Motacilla personata</i>	I., 290. „

HOW TO RECOGNISE THE BIRD IN THE BUSH

"HUDSON'S British Birds", which began my education as an ornithologist nearly twenty years ago, says of a sheldrake: "It has guinea-pig colours, black, white and chestnut"—and, for the rest of my life, the sheldrake is a "duck with guinea-pig colours" and a stone-chat "a chat with guinea-pig colours"; and I am not likely to confuse either of them with other species. And that is what one wants as specific characters: something terse and vivid. But, of course, it can't always be done; a small, slim, greenish, insect-eating bird with a pleasant "warbling" note, is probably a warbler, but paragraphs of exact description may be essential before you can be sure you know which species of warbler. And further, you must be able to recognise your bird as to *genus*—duck, chat, warbler—before specific characters are of any use to you: "a bird with guinea-pig colours" may be a duck or a chat—or a shrike.

Which leads us at once to the distinction between *generic* and *specific* characters, and also suggests the kind of points that will help us to "sort" birds roughly into *genera* at least.

A water bird with a big flat beak, or bill, and a heavy body, with short legs and webbed feet, is likely to be a *duck*—though if the drake is like the duck, they are probably not ducks at all but geese.

Again, a small perching bird which is constantly uttering a sharp “chat! chat!” note as it flits from one bush or stone to another, and which is more commonly met with on heaths or moors than in woods or gardens, is very probably a *chat*; while if a small perching bird’s *habitat*, *i.e.*, the place where it is generally met with, is woodland, we may note whether it has a heavy grain-crushing beak like the sparrow’s and provisionally call it a *finch*, or if it has a delicate, pointed beak obviously fit only for insect food, and most of the *warbler* features already listed, we may refer it to that class.

So far we have suggested three genera* of perching birds: chats, finches and warblers; while we have hinted at the larger groups, generally called *orders*, in using the terms “perching birds”, and “water birds”. The ultimate subdivision, *species*, corresponds to “kind” as we use the word when we say “What kind of bird is that?” If the answer is “A Pied Wagtail” or “A Stone-chat”, we have received a *specific* answer, whereas “A Wagtail” or “A Chat” will merely refer us to a *genus*, or possibly to one of a small group of nearly allied genera, and is really short for “Some kind of wagtail”, “Some kind of chat”. The three groupings, into Orders—Genera—Species, corresponds to our usual way of thinking when we try to decide for

* The term *genus* is used roughly at present.

ourselves the answer to the question "What bird is that?": "It was some kind of Hawk or Eagle, for it was high in the air and it swooped down on a mouse or something and flew off with it; it seemed to stand still in the air before it swooped, and was reddish beneath and greyish above; it had a dark band on its tail". Hence a Hawk or Eagle, *i.e.*, Order *Accipitres*: and the Kestrel or Windhover—we have only one species of the genus in England—for its hovering habits and its plumage both fit that species and that alone. Or again: "It was a duck, but not an ordinary one, for it dived right under and stayed there a long time; it was a small duck, black with a big white patch at each side, and a queer little crest dangling from its crown": *i.e.*, Order *Anseres* (ducks and geese)—and we needn't go into the *duck* characters: one of the *Pochards*, that is, those ducks which dive for their food instead of standing on their heads in shallow water rubbing in the mud; and the *Tufted* Pochard, since its sombre colouring and its drooping crest are quite sufficient indication of his species.

So we find we have already a good idea of the characters we use in classifying birds; and naturally, since classification is based on recognition, we use similar points in recognising them:

Where we commonly see them—*Habitat*.

What they are commonly seen doing—*Habits*.

Characteristic sounds made—*Call* or *Song*.

Characteristics *in flight*, as hovering or flitting from one bush-top to another.

Characteristics *at rest*, as jerking head and tail in unison, or fanning the tail open.

And, finally, and, of course, vital—peculiarities of structure, of which the most decisive ones are generally *beaks* and *claws*, but the most easily discerned in the open are *size*, relative length of body, wings and tail, and striking *colours* of plumage.

We will take one common Indian bird that is easy to identify when seen, and another of less marked characteristics, and show how the above tests are used :

“ It is always pottering about the lawn, digging for grubs or worms with its long slender bill : when it flies it whirrs its wings so that it looks like a black and white Catherine wheel, and says ‘ Hoo-hoo ’ : and when it is startled, it opens and shuts a large fan-shaped crest, which, when shut, balances its long beak, making its head look like a pick-axe. Where it isn’t black and white, it is pinkish fawn colour : it is about a foot long from the tip of the beak to the end of the tail ”. And no one who knew it could doubt that the bird described was a Hoopoe, one of the commonest sights in an Indian garden ; while, equally, no one who was watching birds with any degree of attention but could easily give such a description.

The other example, the Indian Brown-backed Robin with “ a red flannel seat to his pants instead of a red waistcoat ”, is less easy to deal with, yet similar points, if accurately noticed, suffice to identify him.—“ A little bird constantly comes about the verandah

and flies under the bushes or upon the railings when he's frightened: he has rather a long tail, which he cocks up as he sits, showing reddish fluffy feathers under it. He has a pleasant little song, and looks rather like a small blackbird, but he has a white smear on his shoulder and his back isn't quite black, but a sort of dingy brown." Such an observer would readily notice that "he" was often accompanied by a browner "she", and would readily identify *Thamnobia cambaiensis*, the Indian Brown-backed Robin, even from a scientific description. I quote such a one at once to check my point: "upper tail coverts and tail black; wings dark brown, the lesser coverts and part of the median ones white; lores, sides of the head and neck, chin, throat, breast and upper part of the abdomen glossy black . . .; lower part of abdomen and under tail coverts deep chestnut. From February upper plumage darker in colour. Length about six and a half inches".

It is worth while to explain the technical terms used above at this point, adding the one or two more which it will be necessary to use in this book.

A bird's feathers, from the point of view of use, are either flight feathers, or *coverts*, the latter being the feathers which cover both the body and the base of the larger feathers. The flight feathers or *quills*, have special names in the wing, *primaries*, *secondaries* and *tertiaries*, according as they are farthest from the body when the wing is stretched or nearest it; the wing-coverts are grouped in three ranks according to size, *lesser* and *median* at the end near the head, *primary*

and *greater* in the row nearest the quills. The tail feathers are generally so-called, but may be called *rectrices*—obviously because they *direct* the bird. Upper and under tail-coverts explain themselves: the patch of coverts on the lower back is distinguished as the *rump*. A patch in front of the eye is called the *lores*, and if a distinctive streak stretches *over* the eye it is called a *supercilium*—it might just as well be called an eyebrow. Other terms are readily understood: taking the *upper* surface from the beak to the tail—forehead, crown, mantle, upper back, lower back, rump: taking the *lower* from the beak, similarly, to the under surface of the tail—chin, throat, breast, upper abdomen, lower abdomen, vent.

I doubt if we shall often need even thus much technicality.

BIRDS MENTIONED IN CHAPTER II

<i>English Name</i>	<i>Scientific Name</i>	<i>Reference in F.B.I.</i>
Sheldrake	<i>Tadorna cornuta</i>	} British birds.
Stone-chat	<i>Pratincola rubicola</i>	
Pied Wagtail	<i>Motacilla lugubris</i>	
Indian Hoopoe	<i>Upupa indica</i>	Vol. III., 161.
Indian Brown backed Robin	<i>Thamnobia cambaiensis</i> (<i>Saxicoloides f. cambaiensis</i>)	<i>Ed. I.</i> <i>Ed. II.</i> II., 114. II., 111.

MORE COMPOUND BIRDS

AN Indian compound is a splendid place for the beginner in bird-study, if it has a shrubbery, creepers on the house, and a few fairly dense trees like shisham, neem, and sirris.

To list only those birds which are seen all the year round, or frequently during their season, in a rather bare compound in Delhi :—

About the house, either on the verandah or lawn, or on the roof and chimneys: sparrows, robins, mynas, wagtails, chats, hoopoes, doves, kites, vultures, crows, and, on the tops of the gate-posts in the twilight, Little Owls.

In and about the shrubs, creepers and hedges: bulbuls, red-starts, the Purple Honey-sucker, the Tailor Bird, several kinds of wrens and warblers, the *sath bhai* (Jungle Babblers), and the Crow Pheasant and its ill-omened cousin the Brainfever Bird.

In the trees or on the telegraph wires and posts: Blue Jays, King Crows, kites, shrikes, bee-eaters, swallows, tree-pies, orioles, parrots, hornbills, the Gold-backed Woodpecker, the White-fronted Kingfisher and the big Horned Owl.

We shall select from these a few of the commonest to add at once to those we already know, working on the plan we have laid down in chapter II :

I. Lawn and Verandah Birds.

1. Starlings come in groups in the cold weather : they are smaller than mynas, but resemble them in build, walk and habits ; they chatter like mynas but less ; their plumage is " a kind of dyed black " (I quote from an old pupil) in the distance, iridescent black with tiny spots of white or fawn at the tips of the feathers, when seen close at hand. Like mynas they have stout straight beaks and strong short legs, the use of which is clearly seen as they dig for grubs on a hardish lawn, bracing themselves with a firm grip as they let drive at the entrenched grub.

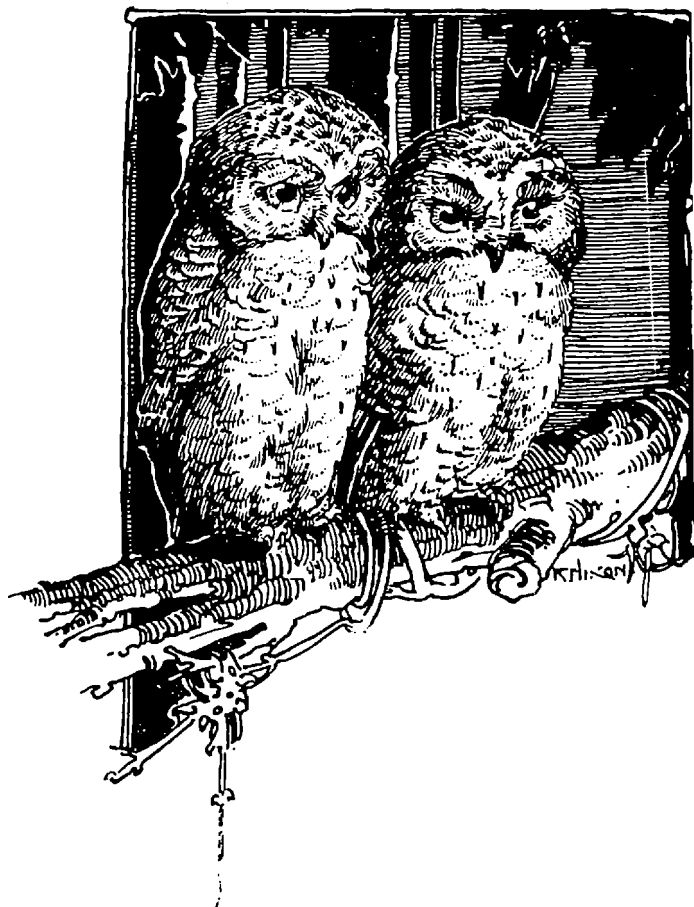
2. The River or Bank Myna is almost as frequently seen as the Common Myna, but they, like wagtails, are fond of water. They are intermediate in size between the Common Myna (10 in.) and the Starling (8 to 9 in.), and are grey where the Common Myna is chocolate brown, and have a red patch of skin near the eye instead of a yellow one.

3. Another, rather small (7 to 8 in.), myna, which seems less frequent than either of these, is the Brahminy or Black-headed Myna ; it is pinkish grey, with darker wings and tail, and has a silky drooping black crest and yellow beak and legs. This is called the " pagoda " myna in its scientific name, and the " temple myna " sometimes, I am told, by Hindus : so it has clearly

appealed to many minds as having something reverend, or even sanctimonious, in its demeanour.

4. The commonest and friendliest dove is the Little Brown Dove, which will do its best to bring up its family of two in your creepers, on your rolled-up "chicks", or will even hopefully deposit a stick or two in the flower-pots and squat on them between the *mali's* visits. The foolish pretty creature is a harmony in reddish-brown and bluish-grey, with coral-red feet; the head and breast, though "dove-colour", *i.e.*, greyish-lilac, are tinted with reddish and are not iridescent, and it has "a miniature chess-board in red and black" (EHA) on each side of the neck. The Ringdove, two inches larger (12.5 in.) is nearly as common, but is marked off by its black collar, and is much more like a common cultivated pigeon in its grey, white and black plumage. The Indian Pigeon (Blue Rock-dove) is a little larger still, and much more bulky, and has the glossed neck and double bar of black on the wings that are known so well in the tame pigeons in cities, for example round St. Paul's in London; it may, indeed, be one of the same species.

5. Little Owls (the Spotted Owlet) like Little Brown Doves, are a constant feature of the verandah, their chattering, and the other's purring coo, often going on together in the twilight. No one can mistake them: as they sit upright on the telegraph wires, the gate-posts, or the top of the water-pipes, they look just like owl ink-pots, even though they don't open at the neck for you to dip your pen into!

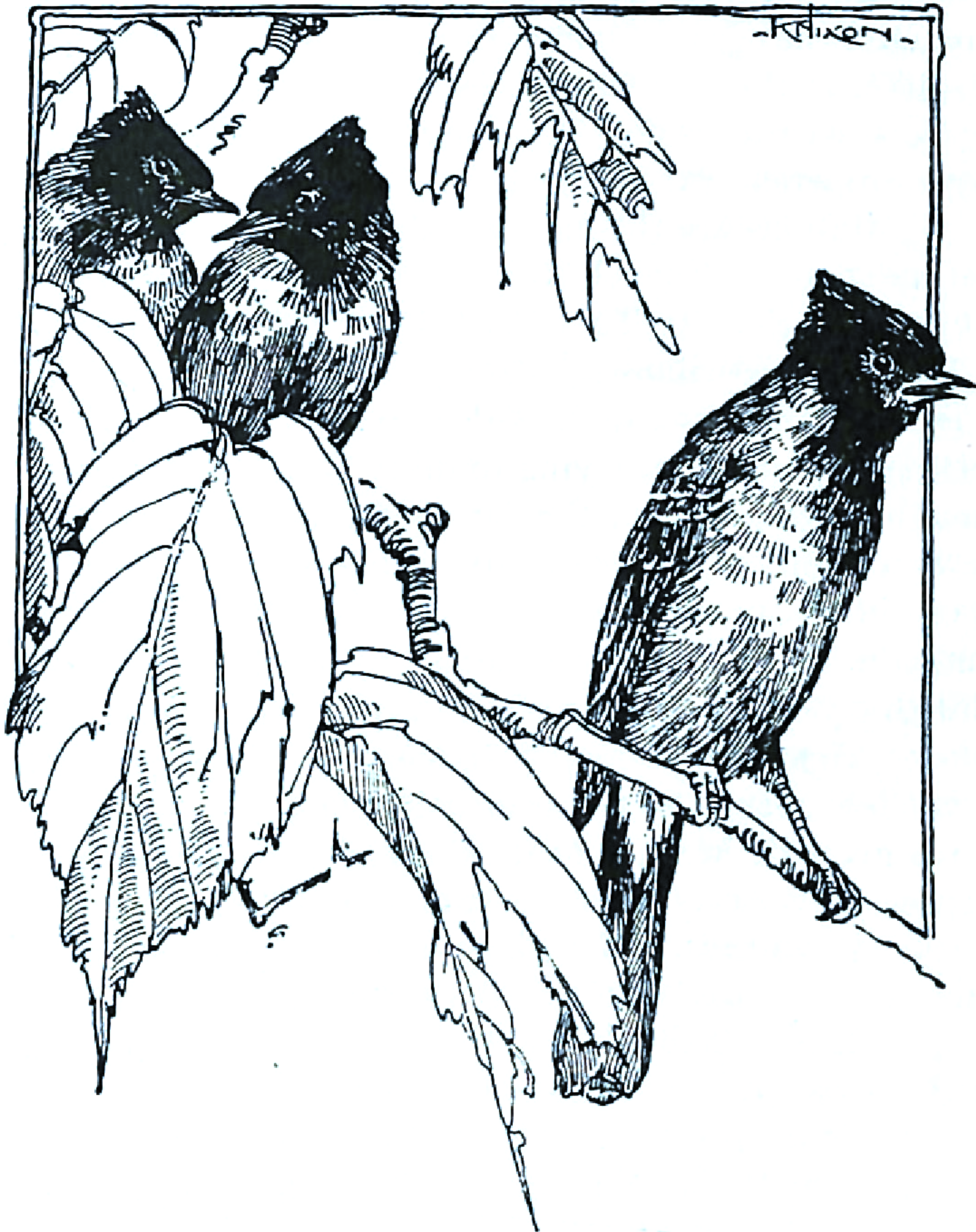


SPOTTED OWLETS.

II. *Birds of the Hedges and Creepers.*

1. The Tailor-Bird—*durzi*—is as common as it is delightful: a wee, green, slim warbler-like bird, but with a rust-red forehead and a long tail which it constantly cocks at a sharp angle to its body, like the robin. Everybody who reads their "Jungle Book" knows about its habits; how it makes its nest in a pair of large leaves cunningly sewn together, and how the cock, who is distinguished by a very long tail, makes so much noise that he draws the attention of everybody to his household arrangements. I'm not so sure about the last; I have seen a pair haunting a large creeper during several years, and, though I have watched them constantly, I have never succeeded in finding their home.

2. The Honey Sucker or Sunbird is another tiny, yet noticeable bird, the Old World equivalent of the Humming Birds of America. The Purple Honey Sucker is the commonest in N. India; but only the cock is purple, and that only when the sun shines on his iridescent plumage, which in a dull light may appear greenish black. The hen resembles a willow-wren in plumage, but has a long curved beak; she is greenish brown above and bright yellow beneath. They make a beautiful, neat pendulous nest the shape of a pence-jug ("pear-shaped" isn't quite so accurate) and then spoil its shape and its neatness by sticking tangled masses of cobweb and any other frail, dirty rubbish outside, overshadowing the elegant, porched doorway by which they come and go. They have two small



BULBULS.

families (each of two or three nestlings) a year, and the babies are ready to fly in the most improbably short time after the eggs are laid. Improbable, too, and very wrenlike, is the volume of the male's song, which he delivers with his whole body and tail vibrating, from any high perch near the nest.

3. Bulbuls are the most lovable birds I have ever met, next to the English Robin ; don't ask me why !—get to know them ! They say " Prick-willow ! Prick-willow ! Prick-willow ! " like a gentler-voiced thristle, in the early morning in my *kikars* when the weather is getting hot and I am trying to derive from *chhoti hazri* enough courage to face the day ; and if I look out and answer, they cock their heads on one side and say it again in a cheering and friendly way. That's the Common Bulbul—black-headed, brown-backed with whitish speckles, base of tail white above, crimson below ; eight inches long. It has a crest which isn't so much a crest as an apparently irritable head of hair, which gives it, in spite of its cheerful chirps, an air of surprise or worry. Another common bulbul has white cheeks, a white-tipped tail, and bright yellow under tail-coverts ; this is equally friendly and cheerful.

4. Redstarts have, as their name says (in Old English) red *tails* : the commonest one in N. India (nominally in the Plains for the cold weather only, but I know it in Delhi all through May at least) is chiefly velvety black and ashy-grey in front view, or as he sits, but seems almost entirely red in back view, as he flies, since not his rump and tail only, but all the corresponding underparts, are chestnut or orange. The

proportion of black and grey varies : in autumn, it seems a grey and red bird with a little black on the head and breast ; in summer, a black and red bird with a little grey on the head. The hen at rest seems chiefly brown, but her tail shows her species. The Redstart is a sprightly little bird, for ever jerking his tail when he sits, and springing from his perch after insects like a fly-catcher.

5. Of Warblers and Wren-warblers the name is legion. The Tailor-bird is himself a warbler, fortunately of marked plumage and characters ; and there are many species corresponding to each group with which we are familiar in England—greenish ones like the Willow-warbler group, brown ones like the Reed-warblers (one huge one, a reed warbler larger than a lark and very noisy, is common round Lahore and Amritsar), greyish ones like the Garden-warblers and Whitethroats. Over and above these, the Wren-warblers are very common ; these resemble the Tailor-bird in the disproportionate length of the cock's tail. Speaking for myself, I feel that the amateur ornithologist is well-advised to be humble, and leave it at " Green warbler ", " Brown warbler ", " Ashy warbler ", " Wren-warbler " : though I fully realise how unscientific such an attitude is. But when this book fails you, you are ready for the four volumes of the " Fauna of British India—Birds "—where you will find every feather of " the bird in the hand " detailed.

6. The *Sath Bhai* (but their gender changes in English to " Seven Sisters ") are the Jungle Babblers ; and there are even more babblers than warblers, and,

while their group is easily settled by the "babbling", and their more or less thrush-like size, shape and habits, their *species* is as troublesome to determine as that of "a warbler". But Sath Bhai, like durzis, have their species better indicated by their habits and habitat than by their plumage. In the first place, no other babbler is so common in N. Indian compounds; in the second, if not always strictly "seven", the brethren always hunt in a family party; in the third, their "babbling" is incessant, and though it may be of a delightful and harmonious character when a large flock of them pour forth their best, hidden in the shrubs in the cool of the evening, it is much more commonly a harsh jabbering in which each seems to be perpetually interrupting the others; and if not a quarrelsome family, they seem to be at least disputatious. They trail after each other from one low bush to another, often along the ground, dragging their long tails behind them like sweepers' brooms. The Jungle Babbler has a pale, fishy eye, which looks uncanny. It seems an idiotic bird; and accordingly, the Small Hawk Cuckoo, or Brainfever Bird, gives it its young to hatch: I have seen it do so.

7. The Brainfever Bird and the Crow Pheasant are both cuckoos, but while you would know this in the case of the former from its hawk-like shape, size, and greyish barred plumage, you would never expect it of the latter, which is well described by its name—a big black crow body, with contrasted, chestnut wings, and a tail of nine to eleven inches long, of iridescent greenish-black feathers. Moreover its habits are much

more pheasant than cuckoo : it prances about on the ground in a very fowl-like way, feeding on insects and lizards ; when startled, flies straight up, and sits as soon as it can find a branch, lifting its tail meanwhile, as a pheasant does ; and, finally, it makes its own nest and brings up its own family like a respectable bird, instead of farming out its young as most of its relations do. It is a big, handsome creature, and not very shy : I have constantly seen it in the Lawrence Gardens, Lahore, and frequently in small compounds in Delhi, Amritsar and Lucknow. Yet another cuckoo, the Koël, is much more often heard than seen : the cock is a big black bird, the hen more like a cuckoo : it gives the House Crows its young ones to rear.

III. Tree Birds

Some of the above, *e.g.*, bulbuls, the Crow Pheasant and the Brainfever Bird, are as commonly met with in the trees as in the shrubbery ; and many of the " tree-birds " are best seen on telegraph or telephone wires or posts, where we have already mentioned the Bee-eater, the Blue-Jay or Roller, and the King Crow. Kites prefer the chimneys of the bungalow as vantage points : and vultures seem to use trees chiefly for nesting and roosting, and are otherwise generally seen waddling about on the ground. Of the rarer large visitors, the White-breasted Kingfisher takes as kindly to a telegraph wire as does a Blue Jay, which he resembles in the relative quietness of his plumage as he sits, and its vividness as he flies. Sitting, his chief features are his heavy deep red beak, three inches long, and his

broad white shirt front ; his back and tail seem dingy chestnut or almost brown-black ; but the moment he flies, screaming, he becomes a "halcyon" Blue Bird indeed, the whole bird seeming transformed to a flash of translucent turquoise blue : I say "translucent" because it has a peculiar clear vividness as if indeed the light had passed through it. Two other kingfishers are common in India ; and other birds of vivid plumage, readily recognised, are the Golden Oriole, the Copper-smith and the Goldbacked Wood-pecker ; but these, with the Grey Hornbill, the Horned Owl and possibly a few others, I postpone to Chapter V, "Rarer Birds", because, while they may be very common in other parts of India, I have only seen them intermittently about Delhi, where my chief experience has been obtained. Careful notes on the dates of their visits would in many cases be valuable, if observers in different localities would "pool" them (through the Bombay Natural History Society for example).

BIRDS MENTIONED IN CHAPTER III

<i>English Name</i>	<i>Scientific Name</i>	<i>Reference in F.B.I.</i>	
		<i>Ed. I.</i>	<i>Ed. II.</i>
Common Indian Starling	<i>Sturnus menzbieri</i>	I., 522.	n.p.
Bank Myna	<i>Acridotheres ginginianus</i>	I., 538.	„
Little Brown Dove	<i>Turtur cambaiensis</i>	IV., 45.	„
Indian Ring Dove	<i>Turtur risorius</i>	IV., 46.	„
Indian Blue Rock-Pigeon	<i>Columba intermedia</i>	IV., 29.	„

<i>English Name</i>	<i>Scientific Name</i>	<i>Reference in F.B.I.</i>	
		<i>Ed. I.</i>	<i>Ed. II.</i>
Blue Rock-Pigeon	<i>Columba livia</i>	IV., 30.	"
Spotted Owlet	<i>Athene brama</i>	III., 301.	"
Indian Tailor-bird	<i>Orthotomus sutorius</i>	I., 366.	II., 410.
Purple Sun-bird (Honey-sucker)	<i>Arachnechthra asiatica</i>	II., 359.	n.p.
Common Bulbul	{ <i>Molpastes haemo- rrhous</i> or <i>Molpastes inter- medius</i>	I., 268.	I., 383.
Red-vented Bulbul		I., 272.	I., 389.
White-eared Bulbul	<i>Molpastes leucotis</i> (<i>M. leucogenys</i> <i>leucotis</i>)	I., 275.	I., 391.
Indian Redstart	<i>Ruticilla rufiventris</i> (<i>Phoenicurus</i> —531 or 532)	II., 95.	II., 76, 77.
Willow Warblers	<i>Phylloscopus spp.</i>	I., 400c.	I., 453.
Reed Warblers	<i>Acrocephalus spp.</i>	I., 356c.	I., 387c.
Warblers	<i>Sylvia spp.</i>	I., 394c.	I., 446.
Wren Warblers	<i>Prinia spp.</i>	I., 447c.	I., 525.
Jungle Babbler (<i>Sath bhai</i>)	<i>Crateropus canorus</i> (<i>Turdoides terri- color terricolor</i>)	I., 110.	" 191.
Common Hawk- cuckoo (Brain- fever Bird)	<i>Hierococcyx varius</i>	III., 213.	n.p.
Crow-Pheasant	<i>Centropus sinensis</i>	III., 239.	"
Indian Koël	<i>Eudynamis honorata</i>	III., 228.	"
White-breasted Kingfisher	<i>Halcyon smyrnensis</i>	III., 132.	"

CHAPTER IV

COMMON BIRDS FARTHER AFIELD

THIS chapter will concern itself on the one hand with big striking creatures like the Peafowl and the King Vulture, which force your attention at the first glance, and on the other with little creatures like larks and chats, which, equally, you must needs see, because they are for ever springing up before your feet.

The Peacock needs no description ; both appearance and cry, its beautiful many-eyed tail and its long melancholy " Moa ! Moa ! " call, are well known. It is found wild or semi-domesticated, throughout India. Its smaller, plainer cousins, quails and partridges, are also well-known ; but, as I suffered much in my bird-ignorant days from that formula, I may say that quails are small round fat partridges (7 to 8 in. long) and partridges are big (1 foot or more) brighter-plumaged quails, and both (including several species) have the same stumpy shape, speckly plumage, and stout scratching running legs.

The Black Vulture (*raj-gidh*) is blacker than any other vulture, has red lappets of skin hanging down his neck like long ears, and is two and a half feet long ; if *he* comes to eat a dead chick, other vultures have to wait till he is satisfied. I have seen on my lawn a

group consisting of, first, a single *raj-gidh*, pecking rather disdainfully at a lump of bad meat ; a foot away, a so-called White-backed Vulture, nearly as big as the King, with a long bare neck rising out of a dirty-white ruff on top of shabby, sooty plumage ; a little farther off, three or four Pharaoh's Chickens, some of them white with yellow beaks, one a brownish youngster ; hopping uneasily, a little further off still, two House Crows ; and finally, so distant as to appear to be taking a purely intellectual interest, two or three Mynas.

From Vultures, heavy, blundering carrion-hunters, it seems a long cry to the slender Shikra, the commonest falcon,* next to the Pariah Kite, in the Plains. The Shikra is a typical small hawk (the male a foot long, the female an inch or two longer and much heavier, as in other *Accipitres*), with keen, yellow eyes, sharply toothed and pointed curved beak, grey upper and reddish under-plumage, the rusty breast barred with white. Our common English Sparrow-Hawk, except that each sex is an inch larger, might be described in much the same way, and both species have long brown tails cross-barred with white, whereas our other common hawk, the Kestrel or Windhover, is a little larger again, and the tail is almost wholly bluish-grey above and white beneath, with a broad black band near the end tipped with white. Roughly, then, the Shikra (hunter) and Sparrowhawk are grey above, with red, barred tails, and light reddish, barred, beneath ; while the Kestrel is a red hawk with a blue-grey tail. But the Kestrel's chief *differentium* is in his " wind-hovering "

* In the wide sense—Family Falconidæ.

habits. "Wings strained to a bell", he hovers, quivering merely, over his prey till he locates it perfectly, then drops on it like a stone. I describe the two English hawks, not merely to place the Shikra, their smaller cousin, but because both are found in India, the Sparrow Hawk in "jungly" country even in the Plains, and the Kestrel very commonly over hillsides in the Himalayas.

Mr. Lawrence's list of *Accipitres* of the Punjab Plains includes nearly fifty species; but the only other *Accipitrine* I know for certain as common near Delhi and easily discriminated from the other, reddish, hawks, is the beautiful red-eyed grey falcon which the "Fauna" calls "The Black-winged Kite". It took me long to identify it under that name, as it looks much more like a small eagle than a kite, having a square tail where the kite's is forked, and its prevailing colour effect is light grey and pure white. Indeed the "black-winged" proves to be "primaries blackish beneath, median and smaller upper wing-coverts, a narrow supercilium, and posterior lores, black"—i.e., you have to look for the black! I have found this much tamer, quieter, and more arboreal than any other hawk, and have watched it for a long while, a few yards distant, as it sat on a small *kikar* tree in the sparse jungle outside Delhi, or even on a telegraph wire.

The other "birds of prey", the owls, have thirteen representatives in Lawrence's list: the only one familiar to me, beyond the ever-present Spotted Owlet, is the Long-eared Owl, which sits on the cross-bars or

tops of the telegraph posts in the twilight and makes two melancholy sounds, one rather like a deserted kitten, and the other very like a puppy.

Thus the larger birds of the near jungle fall into three marked groups: the Game birds or *Gallinæ*, represented by the peacock, partridge and quail; the *Accipitres*, or diurnal birds of prey, *i.e.*, the vultures, eagles, kites and hawks; and the *Striges* or owls, twilight birds of prey.

We shall now return to the *Passeres*, or more or less sparrow-like, "perching", birds, and deal with the shrikes, larks and chats, all of which are well represented in the neighbourhood of Lucknow, Lahore and Delhi, to quote three of the larger towns of the area best known to me.

The largest shrike in India resembles a small hawk both in appearance and habits; it is French grey, black and white, with a strong curved toothed beak, and has the unpleasant custom of hanging up its spare food (beetles and big flies in my experience, mice and small birds and lizards according to the books) on the thorns of its favourite *kikar* tree or caper bush. This, the Indian Grey Shrike, is ten inches long; the other shrike that I have most commonly seen is smaller, the Bay-backed Shrike (7½ inches). This last is a most beautiful little bird, the whole head region velvety black, and the back and shoulders, technically bay, rather the colour of wet bracken or fallen beech leaves in autumn, contrasting vividly with the black and white of the wings and tail; while the rump and most of the under parts are pure white. This pretty creature

has a friendly habit of flying a short way only when disturbed, displaying its white wing-patches and black and white graduated tail-feathers, and then clinging to a swaying branch in a tit-like fashion ; its bright bay back gleams almost crimson in strong sunlight.

The most striking of the chats of the Plains, the Indian Bush-chat, is like the Bay-backed Shrike in having the three " guinea-pig colours ", chestnut, white and black, but these are differently distributed, the breast being red, fading to reddish white on the chest and abdomen, while most of the upper plumage is black save two white patches, one on the neck, and another stretching down from the shoulder ; the rump also is white. The hen Bush-chat is less conspicuous, the upper plumage being brownish and the breast paler, but the white patches, as well as her " chat " habits and speech show the relationship. This Indian Bush-Chat is very like our English Stone Chat, and has the self-same sociable habits. You disturb a little (5 in.) dark bird which was sitting on the highest twig on a leafless caper or *kikar* bush : it says " chat ! chat ! " and with a flirt of its tail flies off, but only to settle on the top of the next bush in the same position. You stalk it cautiously : and the same proceeding is repeated save that if you move quietly and don't gesticulate—birds hate waved arms—it will settle nearer and nearer each time. Meanwhile you not only pick out the points of plumage and observe its behaviour, but note its mate, which is almost certainly at hand and identified by her faithful imitation of her husband's movements, in spite of the quieter colours of her clothing. You may

also find the Pied Bush-chat, Jerdon's "White-winged Black Robin", which I at first mistook for the Magpie Robin, but which is a black bush-chat with the white parts of the stone-chat persisting, *i.e.*, rump, upper and lower tail-coverts and streak along the shoulders. The Pied Bush-chat is larger ($5\frac{1}{2}$ in.) than his cousin with the chestnut breast, and links his genus (*Prctincola**) in this respect with the Wheatear-Chats (*Saxicola**) of which there are several species in the Indian Plains. The Pied Chat is a good inch or more longer than the Pied Bush-Chat, is black above, white beneath, with a half-and-half tail, the black end being the distal end, and the white extending up on to the rump. This white rump and half-tail is even more conspicuous in this genus than in the bush-chats, and recurs in Strickland's Chat, which is otherwise black, in the Isabelline Chat, which is otherwise largely sandy-brown with a few darker markings, and in the Desert Chat, which resembles Isabella but has, normally, a black throat and more black in the wings. All these have what I call a "wheatear tail"—*i.e.*, they, like our English *Saxicola*, the Wheatear, have a white rump and white tail coverts with the remainder of the tail proximally white and distally black; but the one other chat that wanders about the jungle among the bricks and mortar of New Delhi, and therefore elsewhere in unpromising places, has the rump pale reddish and succeeding feathers chestnut, till the black begins. This species is accordingly the Red-tailed Chat, and is

* Generic names altered in new edition of F.B.I., cf. list at end of chapter.

otherwise rather like *Isabella* or the Desert Chat. So there seem to be two common black and white chats, and three more or less sandy chats, in addition to the two bush-chats, to be sorted out from the robins and larks. I am afraid I cannot tell their wives apart !

The Larks are rather comforting. When a little sand-coloured bird rises from the ground at one's feet, and soars into the sky with quivering wings and a throbbing throat, from which after the first few stutters of fright issues a delightful trilling song, one hardly needs to be even a budding ornithologist to hail a skylark. But there are more skylarks than one to be found in the Plains of N. India ; and if one begins to struggle with Sand-larks, and Desert larks, Short-toed larks, and Finch-larks, there's no end to them. Meanwhile three species are easily recognised : the Indian Skylark, which is so like the Western bird (which also may be found in N. India in winter) as to be unmistakable, the Crested Lark, a big bird with a crest of about half-a-dozen stiff backwardly-directed feathers, and the Red-winged Bush-lark, not much bigger than a Bush-chat, sandy as it sits, and spreading chestnut wings fan-like as it flies. " Bush-lark " explains itself : like Bush-chats, they perch on low bushes or on palings. They have a pleasant little song of less volume than a skylark's, which they utter during short flights, soon returning to the same or a near bush.

Most of the Chats and Larks are winter visitors only to the Plains ; but their distribution varies much in different areas of N. India. In any case, the cold weather is the pleasantest time for bird-hunting.

BIRDS MENTIONED IN CHAPTER IV.

<i>English Name</i>	<i>Scientific Name</i>	<i>Reference in F.B.I.</i>	
		<i>Ed. I.</i>	<i>Ed. II.</i>
Common Peafowl	<i>Pavo cristatus</i>	IV., 68.	n.p.
Common (Grey) Quail	<i>Coturnix communis</i>	IV., 114.	„
Grey Partridge	<i>Francolinus pondi- cerianus</i>		
Black Vulture (<i>Raj-gidh</i>)	<i>Otogyps calvus</i>	III., 318.	„
Indian White- backed Vulture	<i>Pseudogyps bengal- ensis</i>	III., 324.	„
Shikra	<i>Astur badius</i>	III., 398.	„
Sparrow-Hawk	<i>Accipiter nisus</i>	III., 402.	„
Kestrel	<i>Tinnunculus alau- darius</i>	III., 428.	„
Black-winged Kite	<i>Elanus cæruleus</i>	III., 379.	„
Long-eared Owl	<i>Asio otus</i>	III., 270.	„
Indian Grey Shrike	<i>Lanius lahtora</i>	I., 459.	II., 285.
Bay-backed Shrike	<i>Lanius vittatus</i>	I., 462.	II., 289.
Indian Bush-Chat	<i>Pratincola maura</i> (<i>Saxicola torquata</i> <i>indica</i>)	II., 61.	II., 28.
Common Pied Bush-Chat	<i>Pratincola caprata</i> (<i>Saxicola caprata</i> <i>bicolor</i>)	II., 59.	II., 26.
Pied Chat	<i>Saxicola picata</i> (<i>Ænanthe picata</i>)	II., 71.	II., 42.
Isabelline Chat	<i>S. isabellina</i> (<i>Ænanthe isabellina</i>)	II., 77.	II., 49.
Strickland's Chat	<i>S. opistholeuca</i> (<i>Ænanthe opisthol- leuca</i>)	II., 73.	II., 44.
Desert Chat	<i>S. deserti</i> (<i>Ænanthe deserti</i>)	II., 78.	II., 51.
Red-tailed Chat	<i>S. chrysopygia</i> (<i>Ænanthe chryso- pygia</i>)	II., 79.	II., 53.
Indian Sky-Lark	<i>Alauda gulgula</i>	II., 3-6.	n.p.
Crested Lark	<i>Galerita cristata</i>	II., 337.	„
Red-winged Bush- Lark	<i>Mirafra erythro- ptera</i>	II., 334.	„

LESS FAMILIAR BIRDS

IN this chapter I shall throw together numbers of birds from many families, linked in my mind by the fact that meetings with them count as events to me, either because the meetings have been rare, or because the bird itself is so beautiful or peculiar that even when well-known it is hailed with ever new delight.

The Gold-backed Woodpecker and the Grey Hornbill are two of the most striking birds that I have seen in the trees in or near Indian cities.

Anyone who knows the laughing, screaming, tapping, "yaffle" of Britain will at once recognise the foot-long, heavy, greenish bird, with long beak and stiff, pointed tail, as a woodpecker ; and having seen his back fully exposed in flight in the sunlight, you will justify his specific name "Gold-backed". He settles on the bole of a gnarled tree and goes running up it, stiffened tail and stout claws holding close to the bark, even when the head is thrown back before a pick-axe drive of the pointed beak dislodges some fragment behind which a grub lurks ; you may note the crimson crest and black moustache, which you will find again and again in other species of woodpecker ; and, once you have learnt this "yaffle" of the Indian Plains,



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which is a very tame one, you will have many signs by which to recognise any woodpecker, in the Hills or in Europe. But the most striking sign of all, from a distance, is the noise of his carpentering—the sound of “the woodpecker tapping the hollow oak-tree” which I have heard as often in spring in an old mango-garden near Delhi, as in Surrey or S. Wales.

The Grey Hornbill, on the other hand, has no British representative ; indeed, it is not allowed in the Punjab by the F.B.I. ; but as I have seen it both in Delhi and in Lahore, it probably occurs between them, and even if I had only seen it in Delhi, I would take Mr. Lawrence's word for it, that it is a “bird of the Punjab Plains”. Considered as a Hornbill, he is a poor specimen, his length but two feet and his “casque” or helmet-like outgrowth from the base of the bill, only two inches long, while his plumage is, as his name says, chiefly grey. But for all that, he is a striking figure, his fanned tail half his total length, his curved toothed bill with the odd outgrowth most disproportionate to his small flat head. There is something unexpectedly human about the expression of his bright brown eyes, which have such long lashes as to be clearly visible with very ordinary field-glasses even at the height of the sirris or mango trees in which I have chiefly seen them.

Better naturalists than I have told me that the hen sits “in purdah” for the whole time of incubation and even till the young are a week old, the cock feeding her through the merest slit left after she has partially shut up the hole in a tree in which they have their

hidden nest. But I have never watched their haunts in the breeding season (April to June), but only caught glimpses of small family groups earlier in the year.

Another bird of striking appearance and habits, though not much bigger than a sparrow, is the Copper-smith (Crimson Barbet) ; his Mahratti name, *Juktuk*, is the best onomatopoesis I know for his call, though it is generally given as "took-took" or "tonk-tonk". Anyway it is two-syllabled, sharply metallic and incessant, and if he sits in a banyan tree even a good many yards away, it is very difficult not to abuse him when your job at the moment is *not* bird-study. But if it *is*, get your glasses or creep near—he is *not* shy—and you will feel as you gloat over his vivid colours that not your most ambitious painting feats with the shilling paint-box of your nursery days, could have overdone him. Round his stout black beak at least three bright colours meet, crimson above, yellow at the chin and throat and over the eye, green, where it isn't velvet-black, between the crimson and yellow ;—part of the neck is crimson, part yellow—most other parts are greenish or yellowish streaked with green, but the tail has a little blue also beneath, and the feet are coral red ! Altogether a most improbable creature ; but, I gather, much commoner in Indian compounds in general than in my experience. In any case, you cannot fail to hear it if present or to recognise it if seen.

Two other birds of the compound trees, which, though shy, are frequent and easily recognised, are the Tree-pies and the White-eyes.

The Tree-pies are obviously relations of the Magpie, which they resemble in size and shape, their tail being twice the length of their body ("length up to 18 in., tail up to 12½ in.") and in their general pied appearance in flight. But a near view shows much pinkish-chestnut, and the dark parts of the wings are rather dark brown and grey than the glossy iridescent black of the English magpie. Tree-pies go about in small groups; as they stick to the trees, dodging from the side furthest from you into the one you can't see at all, you haven't a very good chance unless the trees are few; in which case, the flickering flight and long, fanned but rather pointed, tail, remind one strongly of the British Magpie.

I suspect the White-Eye of being much more common than my meetings with it would suggest: for though its plumage is largely brilliant yellow, it is just sufficiently toned down by paler underparts and dark (brownish) wings and tail, to disappear, as Willow Wrens do, among the leaves of the trees which they haunt in search of insects. But they are even smaller (4.2 in.) than willow wrens; and Jerdon's name "The White-eyed Tit", suits them very well. The "White-eye" refers to the ring of white feathers surrounding the eye: and "Spectacle Bird" is yet another name for the species. Certainly the white "spectacles" are the best means of identification, as otherwise it is very easy to mistake this minute member of the babbler alliance* for a warbler.

* Position altered in 2nd Edn., F.B.I.

The Indian Oriole or Mango Bird is a bird of shrike-like build and size with a golden yellow head and body, black wings, and a black and yellow tail. When you meet another gold and black bird of much the same size in the Hills, it will be useful if meanwhile you have observed that the Oriole has a long slender beak and that the hen has much the same colouring.

Minivets are actually a genus of the Shrike family, and their strong curved bills and large bright eyes are very shrike-like ; but their plumage is much more brilliant, the males being chiefly black and red, the females either yellow and grey or brown and white—a striking instance of sexual dimorphism, cocks and hens looking so unlike that you might expect them to belong to different species. I know these beautiful creatures best in the Hills, and shall therefore refer to them later ; but two of the smaller species, the Small or Pilgrim Minivet (6 in.) and the White-bellied Minivet, about the same size, are well known in the Plains. I am disposed to think the Pilgrim occurs in the more easterly and the paler species in the more westerly districts : the latter is the species I frequently met about Delhi. The Pilgrim cock shows varying shades of grey, deepening to black, above and on the chin, the remainder of the lower parts being scarlet or orange ; the tail and wings are partly dark and partly red ; the hen is paler grey above, yellowish white beneath : the books say there is red in the tail, but I have not seen it yet. The White-bellied Minivet has much less red, the central part of the breast and the rump alone varying from a pinkish flush to almost

orange, and the rest of the plumage is black, or black and white, above, and white beneath. The hen has the orange rump but is otherwise sooty brown and white.

Two more genera with striking plumage and habits, Dayals and Fantail Flycatchers, still call for notice, as visitors, varying in frequency with the district, to Indian compounds ; and then a chapter on birds of the wilder " flats " and the river will bring me to the end, not indeed of the birds that I have seen or that you will see, but of a fair proportion of those that press themselves upon the observation of the beginner in the Plains.

The Dayal or Magpie Robin may have been expected earlier in the book as it appears to be, as the Fauna says, " a common familiar bird—with many of the habits of the English robin, being equally confiding and entering verandahs of houses without fear ". But it is a melancholy fact that it has never to my knowledge " entered the verandah " either of my house in Delhi or those in which I have stayed in Lahore, Amritsar and Lucknow, so I presume it must vary considerably in distribution. In Bombay, I have found its familiarity and tameness quite justify the reference. But I have seen it occasionally in every Indian district in which I have stayed, and though at first, in my anxiety to meet it, I hoped the Pied Bush-chat or one of the black and white chats might prove to be the Dayal, there is no mistake about it when once seen. It is large for a robin, eight inches long ; it is pure white below the breast level, the glossy

LESS FAMILIAR BIRDS



MAGPIE ROBIN OR DAYAL.

black of the upper plumage continued under the beak as a long black bib, while the tail, constantly cocked up at a sharp angle, is white-edged, matching large white streaks on the wings. It is certainly much more of a *garden* bird than the Brown-backed Robin, though no doubt it will come into the house too where this is neighboured by trees. I always think of it rather as a Pied Black-bird than as a true Robin ; and its song is not unworthy of the comparison.

The Pied Fantail Flycatcher needs no more description than his name, especially to anyone who knows the habits of the little Spotted Flycatcher. If when you are stalking bee-eaters, say in a wooded garden, a seven-inch long, black-and-white bird dashes out in a curve from under a tree, fanning its long tail wide open, and completes the ellipse which brings it back to its former perch having meanwhile—snap!—done the job for which it dashed out, and lessened the fly or mosquito population by one at least—why, that's the Fantailed Flycatcher. And the joy of it is that if you stay, you may watch him at the same game for as long as you will, while the light and the insects last ; or, if you prefer, go to the same place again to-morrow and you will find him repeating the performance.

BIRDS MENTIONED IN CHAPTER V.

<i>English Name</i>	<i>Scientific Name</i>	<i>Reference in F.B.I.</i>	
		<i>Ed. I.</i>	<i>Ed. II.</i>
Golden-backed Woodpecker	Brachypternus aurantius	III., 58.	n.p.
Common Grey Hornbill	Lophoceros birostris	III., 155.	„

<i>English Name</i>	<i>Scientific Name</i>	<i>Reference in F.B.I.</i>	
		<i>Ed. I.</i>	<i>Ed. II.</i>
Crimson-breasted Barbet or Coppersmith	Xantholoëma hæmatocephala	III., 98.	
Indian Tree-pie	Dendrocitta rufa	I., 30.	I., 49.
Indian White-eye	Zosterops palpebrosa	I., 214.	n.p.
Indian Oriole	Oriolus kundoo	I., 504.	
Smail Minivet	Pericrocotus peregrinus	I., 487.	II., 329.
White-bellied Minivet	P. erythropygius	I., 488.	II., 332.
Magpie Robin	Copsychus saularis	II., 116.	II., 113.
White-browed Pied Fantail Flycatcher	Rhipidura albifron- tata (R. aureola. Edn. II.)	II., 52.	II., 277.

A CHAPTER ON CLASSIFICATION

BEFORE moving on to the rich bird-fauna of the Hills, it seems worth while to put together what we know by this time as to the classification of birds :—

Species of closely related birds are grouped together into *genera* ; and their scientific names make this clear, as their popular ones equally ought to, though they don't always. Thus both the Bay-backed and the Grey Shrike belong to genus *Lanius*, both the Pilgrim and the White-bellied Minivet to genus *Pericrocotus*.

Don't ask me the meaning of these names—generic names are generally too much for my scholarship : but the specific ones are more helpful to me ; *lahtora* is the Hindi name for the great Grey Shrike, *vittatus* says " spotted " and the Bay-backed Shrike *has* conspicuous white spots on his shoulders ; *peregrinus* does peregrinate, dear small rosy " pilgrim ", all up and down the great continent of India ; *erythrogygius* *has* a " red rump ". So that while your general information, or your etymological dictionary, or, still better, your knowledge of the classics and local Indian tongues holds out, even scientific *specific* names become sensible on inspection.

The intermediate groupings, into *families* and *sub-families*, are constantly being rearranged ; we will discuss them later.

But meanwhile, the *Order* grouping is moderately stable and understandable, for a good many at least of the birds of our acquaintance.

Order *Passeres* is a huge group of all the most " recent ", *i.e.*, youngest in the history of the world, birds ; because they have only lately come into existence as distinct species, they are very closely related to each other, so that though the Crow and the Nightingale seem unlike enough, there is a continuous series of slight variations, now in the direction of size, now in that of song, to be made out between them. The name *Passeres* is simply the plural of *Passer*, the sparrow : and that ubiquitous fellow serves as an average type of what a " passerine " bird should be, though he has, over and above his passerine characters, the special peculiarities which make him a *finch*. A passerine bird then, is primarily fitted for flight and perching, rather than for walking or wading, for example : hence it is " arboreal ", *i.e.*, generally seeks its food and makes its nest in or near trees or bushes. Further, *most* *Passeres* are of relatively small size (contrast Game Birds, or Waders, the Heron alliance), of relatively inconspicuous plumage, at least when young, and the " sexual dimorphism " may be either marked, especially where the cock is brilliantly coloured, or slight where both are inconspicuous.

Further, while not all passerine birds sing, most at least of the singing birds are passerine.

A passerine structural feature that we all take for granted is the possession of four toes, three in front and one behind, which fall naturally into the perching position, *i.e.*, the three forwardly-directed toes grip the perch parallel with each other, curving *backwards* beneath the ankle, while the hind toe (*hallux* or "big toe") grips *forwards*, so that a very firm hold is taken of the perch.

In passerine birds, the two chief muscles of the lower leg terminate in such a way that this opposition between the three toes and the hallux is easy, one muscle forking like a trident to supply all three toes, and another supplying the hallux only; whereas in the next order there is a slip connecting the two muscles, whose distribution is moreover much more complicated.

This is correlated with the different behaviour of the toes, which are for climbing, as in the woodpeckers, rather than perching, and are in many species not only very strong, but directed two forwards and two backwards, so as to give a balanced grip of a vertical surface: a woodpecker's toes are spread like a St. Andrew's cross, as it climbs a tree. I think it is best for us to block the six small orders, given by the Fauna after Passeres, into one, *Picariæ*, allowing it to include not only all those birds which would have been in the old group Scansores or climbing birds, *e.g.*, the woodpeckers, cuckoos, and parrots, but even the swifts, which, as their four toes are all directed *forwards* and are very weak, fit only for clinging, seem very out of place with parrots. But *Picariæ* (from *Pica*, a woodpecker) or Scansores, if we keep the old name, is frankly here

only a "hold-all" for the birds whose toes and other characters are neither passerine, accipitrine, strigine, gallinaceous, wading, or anything else nice and simple and easily explained; and I hold to it to save the mental exertion of explaining the differences between the six equivalent orders given by the Fauna (*cf.* also Mr. Lawrence's list), Pici, Zygodactyli, Anisodactyli, Macrochires, Coccoyges, and Psittaci—which abhorrent terms I hereby abjure for all future use in this book.

Order II. then, is *Picariæ*, which includes birds whose toes and toe muscles are *not* passerine, but may be all sorts of queer things—two forward, two backward, all strong and very independent, in woodpeckers, barbets, cuckoos, and parrots: three forward but so joined as to act almost as one, and one backward, in kingfishers, bee-eaters, rollers and hoopoes; or all forwardly directed and weak, though the hallux is feebly opposable, in swifts. None of these birds sing, though many have pleasant notes, and some make singularly human sounds—cuckoos and parrots at once occur to the mind. Some of the most brilliantly plumaged birds of our acquaintance belong here.

Order III. *Striges*, includes the owls, and Order IV. *Accipitres*, includes vultures, eagles, falcons and hawks; and that seems to be all we need say at present: anyone who knows an owl from a hawk and either from any other bird can make up characters that will serve to distinguish them.

Order V. is *Columbæ*, doves and pigeons; Order VI. *Gallinæ*, Game or Scratching birds; Order VII. *Grallæ*, water and moor birds, includes rails and

moorhens and cranes ; Order VIII. *Limicolæ*, means " heath-dwellers ", and includes curlews, sand-pipers, and snipes ; Order IX. *Gaviæ*, includes gulls and terns ; Order X. *Steganopodes*, cormorants and pelicans ; Order XI. *Herodiones*, herons, storks, ibises and bitterns (the flamingo has an order all to itself near by) ; Order XII. is *Anseres*, (*Anser* is a goose) and *Anseres* includes web-footed, short-legged water birds, *i.e.*, ducks and geese ; and Order XIII. is *Pygopodes* and contains the grebes.

* * * *

Once we have cleared all these objectionable names and details out of the way, we are free to group birds in the *jats* to which, after all, they belong by nature, and not because learned professors have forced them into cages ; and we shall need chiefly the first six orders, which, except for *Picariæ*, are quite plain sailing, leaving the others for further reference when our rank as experienced ornithologists promotes us to " The Fauna of British India."

Meanwhile for relaxation we will hark back to *Passeres*, and arrange the passerine birds we know best in Families and Sub-families. A sub-family will be a group of genera so closely related that, generally, a common popular name, such as " tits ", " shrikes ", covers them all ; while the limits of a " family " depend on less easily discerned structural features, and may sometimes amaze us, as in the case of the first Family, *Corvidæ*, of *Passeres*, of which sub-family I. is *Corvinæ*, containing crows, pies and jays, while sub-family II. is *Parinæ* containing the " tits ", of which the Fauna

tells us "the affinities with the Crows are recognised by all writers on ornithology"—so they must be,* although *this* writer confesses that the indications of affinity are too polysyllabic for her to wish to drag them in here.

Family II. includes the babblers, laughing thrushes, whistling thrushes, and bulbuls,† and you will find as you get to know them, that you would expect them to belong to one big clan. Omitting several small families we come to the *Sylviidæ* which are, as their name says, birds of the woodland, including all the genera (thirty-two in India) of *warblers*, small insect-eating *Passeres* whose characters we have already discussed; then the *Laniidæ*, shrikes, including minivets. *Orioles* have their own family, *Oriolidæ*. Family *Sturnidæ* includes, as we know, not only *Sturnus*, the starling, but several genera of Mynas, and the beautiful Rose-coloured Pastor, or pink-and-black crested starling, which I should have described among the birds of the wilder jungle in the Plains.

Muscicapidæ is the Latin equivalent of Flycatchers, a family of seventeen genera, many of which we shall meet in the Hills.

Turdidæ includes the best songsters among the *Passeres*, though the least gaily clad. Each of the five sub-families includes British types. The chats and redstarts and robins are all found here, as well as black-birds, ouzels, and song-thrushes.

* Separated, in second edition of F.B.I., into distinct Families.

† Not in second edition; see Ch. IX, notes.

Four more families full of British representatives are the *Fringillidæ* or Finches, including sparrows and buntings as well as true finches : *Hirundinæ* or Swallows and Martins, several of which are common both in Plains and Hills : *Motacillidæ* with wagtails and pipits ; *Alaudidæ*, or true Larks, with hind claws so long that they aren't true perching birds at all. And the odd little Honeysuckers come very near the end of the order as *Nectarinidæ*.

No other order needs such splitting up, for none, as we have said, is so full of nearly related types branching out into so many genera and species.

A FEW BIRDS OF THE WATERSIDE

I HAVE been less fortunate than naturalists whose headquarters are Lucknow or Lahore, for example, in that Delhi is a particularly *unwatered* city, in these days. Hence my study of Indian waterside birds began at the excellent *Chiriyakhana* in Lahore Botanic Gardens, and could only be continued on occasional visits to Okhla and Wazirabad near Delhi, and to more favoured cities, including Amritsar ; and this chapter will be devoted to few species relatively to the large number possible to encounter, but so selected as to give some idea of the variety of structure possible to riverside dwellers.

Of *Passerinae*, the Great Reed Warbler and its congener the smaller Paddyfield Reed Warbler, the Baya (Common Weaver Bird) whose pendent nests are so familiar a feature, and the Bank Myna,* all find favourable conditions by the waterside ; and sandmartins and swallows may constantly be seen, hawking over the surface. But the two outstanding aquatic wagtails, the Grey Wagtail and the Large Pied Wagtail, are much more vividly seen than any of these, in my memories of those small slow streams, half-blocked by

* Ch. III, p. 43.

weeds and stones and tiny muddy islands, which are happy hunting grounds for insects and flowers as well as for birds. Here both species of the graceful creatures may be met with, balancing on half-submerged stones or dabbling their toes and dipping their beaks as they forage. The Large Pied Wagtail is more than an inch longer than the Grey, which latter species is identical with the largest of the British wagtails: both have the common wagtail traits,* but the Grey Wagtail has a pure French-grey beak and a canary yellow breast, whereas the Large Pied is a glorified version of *Motacilla personata* of the compound, his black much more and more glossy, his white more purely white, glistening silver-blue from contrast. The hen *M. maderaspatensis* is considerably smaller and paler than the cock and hence closely resembles other hen wagtails.

A dull speckly little larklike bird, with white feathers in either side of the tail and a constant "Pip-ip!" call is the Water Pipit—as you might expect; or it may be the Rock one.

The next big group, which I have called Picariæ in the last chapter, gives the swallow-like swifts, hawking with the martins and swallows near and over the water, and three species of kingfisher. Of these, the White-breasted Kingfisher is an old friend†, by no means restricted to the waterside; another, the European Kingfisher, a much smaller bird (7 ins.) of equally brilliant plumage, is often to be seen sitting reflectively

* P. 34.

† Ch. III, p. 51.

on a projecting stump or overhanging bough, and taking skimming darts at small unwary fish from time to time, or, when startled, flying upstream like a sudden flash of coloured light. The third species, the Pied Kingfisher, is a bird of widely different plumage and habits, though of the same eccentric topheavy build: he is in effect a water-*hoverer*, hanging suspended over the surface of the river as the kestrel does over the mountain pasture, but with periodic wild wing-flappings. He seems always to "stoop" from the wing, although he may often be seen resting on a bridge or bough, at a considerable height above the water.

But it is the older orders, earlier evolved, which are most richly represented by the waterside: whether because they have never left it, or because they have retreated to it again as affording a field where the struggle for existence is less acute, let scientific zoologists dispute.

The Order *Grallæ*, represented largely in England, as for example by the Corn-crake, Water-rail, Coot and Moor-hen, has the last three species represented in Indian waters also; the beautiful Purple Moor-hen (better called a Coot), also wild in India, may be seen in the Lahore *Chiriyakhana*. The Crane (*Grues*) family of *Grallæ* has at least three common Indian species, the Common Crane and the much smaller Demoiselle, both called *kullum* in the vernacular, and the Sarus Crane: the true cranes (Common and Sarus) are long-legged thick-kneed creatures, built much like Herons, and indeed differing from them chiefly, for amateurs, in their different habits. The Sarus is a huge creature,

nearly five feet long, the Common Crane just under four feet. The Demoiselle is relatively small ($2\frac{3}{4}$ ft.) and delicately built; its "human" appearance—in the distance!—is twice emphasised in its name of *Anthropoides virgo*. Demoiselles are sociable creatures, fishing, and flying, in large flocks, and I have watched their evolutions even above the arid plains of New Delhi: the face, foreneck, and drooping lower neck feathers, are black or blackish, while a white plume projects backwards at either side of the head, behind the ear-coverts. The wings and tail are mainly blackish, the body chiefly grey. In flight the neck is stretched out instead of being bent back with the head on the shoulders, the Heron's way. The Common Heron, well-known to me in unfrequented haunts on English and Welsh rivers, seems much less retiring in India, where I have often seen it from the train; it is a grey bird with a white head and neck decorated with black crest, and its breast plumes are white; an arrangement of black and white, which as well as its larger size ($3\frac{1}{4}$ feet) will be found to differentiate it readily from the Demoiselle Crane, while the Common Crane is six inches larger than the Heron, and is a very dingy grey bird, with a bald head and no ornaments. But they, like the Demoiselle, are beautiful in flight, sweeping along in V-shaped formation at a great height.

Of the *Limicolæ*, strand dwellers, moorland and sand-dune birds in England, India boasts many, including the Plovers and the Snipe alliance, both well known to the *shikar*. The typical Plover of our area is for me the Red-wattled Lapwing, for as often as I hope



COMMON AND DEMOISELLE CRANES.

"That bird must be another species", I find when I have my field glasses trained on him that he develops the characteristics of the well-known bird : long white line from eye to breast on either side of the neck, and red wattles in front of the eye, though these seem to vary in size and colour with age. This is one of the "*Titiri*" of the vernacular, and I have tried to make its loud call have some relation to this name : but the English "Pity-to-do-it" seems much better. It likes water, but does not demand actual riverside, and often turns up with its mate in any of the old Moghul gardens about the Northern cities. The Common Sandpiper or Sanderling (8 in.)—"Snippets" includes this and two other species—is abundant by every stream and riverside ; a dull little long-legged greeny-brown trotting bird, till you startle it, when, on the wing, it becomes almost entirely white : a phenomenon repeated in the Paddybird or Pond-Heron, distant in classification and much bigger (18 ins.) but found in similar places.

The Gull and Tern group (*Gaviæ*) is represented by the graceful Sea-swallows or Terns which, unlike the gulls, affect far inland as freely as coastal waters. Two or three species seem common, all forktailed, long-winged, greyish or white birds with long bright-coloured (yellow or red) bills : the large (15 in.) Indian River Tern has a black head, the Black-bellied (13 in.) is much darker below than above, while the Common Tern (14 in.) otherwise much like the Indian River, has a coral-red beak where the Indian's is golden yellow. The Little Tern (9 in.) must be a delightful dainty creature, but I cannot be sure that I have seen it.

Finally, for us (though all kinds of ducks and geese, the Flamingo, and both the Great Grebe and the tiny Dabchick are "common in N. India", for the Fauna and the *shikari*) the Order *Herodiones*, of which I have already mentioned the least shy species, the Paddybird, and, in comparison with the Cranes, the Heron. The Common Heron of Europe is also the Common Heron of India: a sombre slate-grey stilt-legged lump, its head sunken between humped shoulders, it stands on one leg with the other curled round it with drooping limp claws. Suddenly, as a stone crunches beneath your foot, a transformation occurs: the long neck shoots up, revealing the drooping crest feathers and the pure white, black-flecked neck and breast plumage; and then—a serpentine twist of the long neck, a suspicious gleam in the golden eyes, and the huge creature folds its neck, spreads its wings, and, its legs trailing, crashes through the low hanging branches to an undisturbed haven.

A much tamer heron is the Cattle Egret (*Gai bagla* in the vernacular), a delicately white, erect, soldierlike form, stalking through the sodden marshy cattle-meadows beside the *gai*, and darting unerringly on the foolish crickets which fly before their partner's heavy tread. I don't know whether the *gai bagla*



HERONS.

have not mentioned, I refer the reader to the *shikari* of their acquaintance: it is only by people of leisure that many of the shy water-birds may be known "in their habit as they live", and the other, the *shikar* way, is not congenial to me.

BIRDS MENTIONED IN CHAPTER VII.

<i>English Name</i>	<i>Scientific Name</i>	<i>Reference in F. B. I.</i>	
		<i>Ed. I.</i>	<i>Ed. II.</i>
Great Reed-Warbler	Acrocephalus stentorius	I., 356.	I., 388.
Paddy-field Warbler	Acrocephalus agricola	I., 359.	I., 394.
Baya or Common Weaver-bird	Ploceus baya	I., 175.	n.p.
Sand-martins } Swallows } Swifts }	v. Chap. XI.		
Grey Wagtail	Motacilla melanope	II., 293.	n.p.
Large Pied Wagtail	Motacilla maderaspatensis	II., 291.	..
Brown Rock-Pipit	Anthus similis	II., 306.	..
Water-Pipit	Anthus spinoletta	II., 312.	..
Common King-fisher	Alcedo ispida	III., 122.	..
Indian Pied King-fisher	Ceryle varia	III., 119.	..
Corn-Crake	Crex pratensis	IV., 163.	..
Indian Water-rail	Rallus indicus	IV., 158.	..
Moorhen	Gallinula chloropus	IV., 175.	..
Coot	Fulica atra	IV., 180.	..
Purple Moorhen	Porphyrio poliocephalus	IV., 178.	..

<i>English Name</i>	<i>Scientific Name</i>	<i>Reference in F. B. I.</i>	
		<i>Ed. I.</i>	<i>Ed. II.</i>
Common Crane	<i>Grus communis</i>	IV., 186.	n.p.
Sarus Crane	<i>Grus antigone</i>	IV., 188.	„
Demoiselle Crane	<i>Anthropoides virgo</i>	IV., 190.	„
Common Heron	<i>Ardea cinerea</i>	IV., 382.	„
Common Snipe	<i>Gallinago coelestis</i>	IV., 286.	„
Common Sandpiper	<i>Totanus hypoleucus</i>	IV., 260.	„
Pond Heron or Paddybird	<i>Ardeola grayi</i>	IV., 393.	„
Red-wattled Lapwing	<i>Sarcogrammus indicus</i>	IV., 224.	„
Terns <i>spp.</i>	<i>Sterna spp.</i>	IV., 319. <i>et seq.</i>	„
Great Grebe	<i>Podicipes cristatus</i>	IV., 473.	„
Dabchick	<i>Podicipes albipennis</i>	IV., 475.	„
Cattle Egret	<i>Bubulcus coromandus</i>	IV., 389.	„

PART II

BIRDS OF THE HILLS

CHAPTER VIII

CROWS AND TITS

THE first, and presumably highest evolved, of families in Order Passeres, contains two groups of birds which seem to the unprejudiced observer as unlike as possible.* It is true that the Jungle Crow and the Black Tit are both common in the hills, "familiar" in every sense, and more or less black—one might almost add, in every sense also, for, if the Jungle Crow is a big thief, the Black Tit is a minute bully! But otherwise, these types, two of the first birds to greet one when one attains to the blessed damp green Hills from the sunbaked yellow Plains, seem describable only in opposites. The Jungle Crow is large, even for a crow (19 ins.); his beak looks ill-adjusted to his flat forehead, being strong and heavy, as his technical name denotes†: he is rather a solitary or "mated" bird, like the English crows, than gregarious like his congener of the Plains; and, as his stout legs lead one to expect, he is quite as much at home strutting about on the grassy uplands as he is perched in a tree. Whereas, the Black Tit is small even for a tit, "4.3 in." says the F.B.I., crest and all,

* Accordingly, they are split into two families in the second edition (1922) of the F.B.I.

† *Macrorhynchus*=great beak.

with a wee conical beak ; and his large family parties are strictly arboreal in habit, dashing from tree to tree when necessary like stones from a catapult. For the rest, he has enough white and grey to make him roughly like a Cole Tit save for his pointed black crest, and conspicuous chestnut patches on his flanks.

The Crow group contains, in addition to the true *Corvus macrorhyncus* (which overlaps with *splendens* in many parts of India), representatives of the Pies and the Jays. The Himalayan Tree-pie is so much like the Plains species that he needs no special mention : both have the same glossed-black, white, and chestnut plumage, long graduated tail, and delightful gurgling "Bob-o-link" call. But the Himalayan Magpies (*Urocissa*), both Yellow-billed and Red-billed species, are startlingly different from either the Tree-pies or the European Magpie, with much elongated tails and vivid blue and white plumage : the commonest in my experience, the Yellow-billed, has one and a half feet of powder-blue tail-feathers, white-tipped, trailing after him as he flies or drooping in a tell-tale fashion from the bough in which, in the strong sun and shade, his indigo-and-white body might have been unseen. He is a quarrelsome and noisy creature. We had delightful luncheon parties several times in Dalhousie, on the woody hillside, attended by a most intelligent old thief of a *C. macrorhyncus*, with white feathers in his tail and his character, and a great *flair* for cheese ; but on one occasion he was "mobbed" by a pair of Yellow-bills, who, from hiding round the other side of the pine trees (tails dangling betrayingly) and peeping, advanced

to sweeping down, first he, then she, in alternate menace, every time poor *Kauwa* sidled near us for a bite.

Two species of Jay, also, are common in the Hills, nominally Black-throated (*Garrulus lanceolatus*) and Himalayan (*G. bispecularis*). I prefer to call them Black-headed and Cinnamon jays respectively, as *lanceolatus*' velvety black head is much more readily distinguished than the black gorget, and he is equally "Himalayan" as *bispecularis*, indeed I have found him commoner, above six thousand feet, than *bispecularis*, in which the warm, withered beech-leaf colour, spreading from the "bispeckly" head to the black tail, is by far the most striking feature when "in the bush", though I once looked long for him against a rust-red pine stem at sunset. Both have the blue of Keltic eyes in their plumage, and a blue, though an uncanny one, in their irides: the tail of *lanceolatus* is largely blue, so that you might almost distinguish them as blue-tailed and black-tailed respectively; both have the typical chequered patches, blue, white, and black, on their wings.

The tits of the Hills belong to as many different genera as there are common species, according to the F.B.I., but it is luckily possible for practical purposes to classify them as—two *crested* species, a big and a little, two *uncrested*, but clearly tits, the big one with a black cap, the little with a red one, and one little greeny-yellow one that looks like a warbler but may always be found with tit flocks. The little crested tit is the Black Tit, already described: the big one, the Yellow-cheeked,

is as big as a sparrow *plus* a pointed black crest, tipped with yellow. The little Red-cap is as common at four thousand to six thousand feet level as the Black Tit is at higher levels, though they overlap freely: his general colour is buffy-grey, pinkish beneath, but the orange diamond-shaped patch on his head and his pale grey eye are his most striking differentia. The fourth species, the Green-backed Tit, is nearly as large as the Yellow-cheeked, but his black head is not crested, though the feathers are "sub-erectile", *i.e.*, often stand half on end when he is angry or startled. This is a typical tit, of the parent genus *Parus*, to which the common European species belong; it has a white cheek clearly marked off by darker plumage above and below, brighter covert feathers than most *Passeres* wear (in this case, a green back, a canary-yellow breast, and bluish-grey wing coverts) superimposed on black and white flight feathers, and a small strong beak. Moreover, it has social yet quarrelsome habits, little real song, and finally, a great variety of language, including one easily recognisable "speech", the "tit-it-it" of their popular name. The fifth Tit species, the Tit-warbler, a tiny greeny bird with a yellow breast, strictly arboreal, kept me hunting for a long while among pages about warblers, until I found in the bird-skins at South Kensington the undoubted evidence of his identity.* But he is appropriately surnamed *modestus*: his only titlike features, superficially, are his topsy-turvy attitudes, his tittering, and his small stout beak.

* See later p. 100.



BLACK-CRESTED AND RED-HEADED TITS.

One more tit, the Grey Tit, will be seen at lower elevations—probably at the half-way houses, Dunera, Del-a-Dun, and the rest, and even in the Plains during the winter. It is a paler plainer version of the Green-back, and well described by its popular name.

It will be seen that the first family of Passerine birds, while it illustrates the varied powers of the "perching" foot and of the avine syrinx (roughly = *larynx*) fails to show the "songbird" character which we associate with the Order; this is well developed in the *warblers*, which, with their allies, the *babblers*, form the subject of the next chapter.

THE BABBLERS AND THE WARBLERS

THE next half-dozen families in the Fauna include two large groups of birds each distinguished by marked vocal powers: the Babblers,* somewhat thrush-like birds, may have a melodious whistle, or even actual song, but are more especially conversational, the perpetual chatter of the *Sath Bhai* being characteristic of the family; while the Warbler family† contains many of the best known songsters, the Nightingale and Robin, for example, and every member of the group has at least a pleasant rhythmical twitter.

The three common Babblers of the Plains, whom we have so far called *Sath Bhai* indiscriminately, are typical in structure, with their thrush-like body, long tail, slightly fanned in flight, and moderately pointed beak with wide gape. Their plumage, however, shows much less variety and beauty than that of their Hill relations, of whom the Crested Garrulax is a handsome chestnut fellow with a silver grey crest, another‡ has a conspicuous white throat, another§

* *Crateropodidae* of first edn., F.B.I.—*Timaliidae* of second edn.

† *Sylviidae*.

‡ *Garrulax albigularis*, the "Poona thrush".

§ *Trochalopteryx erythrocephalus*.

a red cap, while the Variegated Laughing Thrush answers fully to his name, having black, purple-grey, olive-gold and chestnut in his wings alone; for the rest, his tail is black and white, his back olive, and his head ash-grey, with a reddish patch on his cheek. Even the Streaked Babbler,* as common in the undergrowth near our hill houses as the *Sath Bhai* in our shrubbery in the Plains, is an attractive bird, more thrush-like in its proportions than they, and of a general reddish tint, each feather streaked with darker. This is a friendly bird, readily becoming familiar. One used to exchange salutations with me every morning, and eventually its half-fledged young even walked into my dressing-room day by day to see if they could find my pet caterpillars; in which enterprise I regret to say they succeeded more than once, even though one victim was a cunningly concealed "Lobster" of the self-same green and red tints as the leaves in which he sat. The Red-headed Laughing Thrush is also common, and readily identified. But the most attractive Hill Crateropod—hideous name!—is the Whistling School-boy,† the *kustoorā* of the vernacular, a large slim black-bird, in a dim light, but glorious indigo-blue with the sun on him, with a clear resounding whistle that one may hear several times before referring it to a bird, while it is yet very difficult to imitate.

Two other members of the group, of the section‡

* *Trochalopteryx lineatum*.

† Transferred to the true thrushes in the new edition of F.B.I., Vol. II, p. 178.

‡ Family Pycnonotidæ of second edition.

known roughly as bulbuls, are the Blackheaded Sibia and the Black Bulbul, both long slim birds rather larger than the Common Bulbul of the Plains ; both occur in small family parties in the tree tops, and draw attention to themselves, the Sibia by a pleasant whistle, the Black Bulbul by a sharp double note. The Sibia is brown-pink, with a black crest ; the Black Bulbul is mainly iron-grey, but his beak is coral red and his head and short crest black. The true bulbuls of the Plains are of the same group. The King Crow, who has a dark grey cousin in the Hills, is a member of a small family formerly placed near the Babblers ; it is distinguished mainly, for the unlearned, by the lyre-shaped turn of the tail feathers. Another small family of exceptional birds, the Nut-hatches (*Sittidæ*) is represented in the hills by several species closely resembling each other ; all are small wren-shaped birds with strong climbing feet, blue-grey upper and salmon pink lower plumage, and strong blackish beaks ; and all, to quote W. H. Hudson, resemble " erratic Woodpeckers " in that they, woodpecker-like, seek their food mainly in the bark of trees, but with the sharp twists and turns and topsy-turveyings of a tit, rather than the steady business-like behaviour of the larger climber, or of the tree-creepers, which start at the bottom of the trunk and work up in a slanting spiral till they reach the branches, when they drop to the foot of the next tree and pursue the same plan. The Tree-creeper is an arc of a circle, his long fine beak and his stiff pointed tail linked by the curve of his bowed back ; his full white throat looks made for better things

than the tiny querulous twitter which it constantly emits.

The Crested Wren also, *Regulus cristatus*, smallest of Kings, stands almost alone in a small family ; and all these three species, Nuthatch, Tree-creeper and Crested Wren, may be met with in mixed flocks mainly composed of tits. The Crested Wren is a tiny olive-green bird with a yellowish breast, which we may distinguish from the next group, the Warblers, rather by the double white stripe on his wing, and his tit-like independence of gravity, than by the minute structural differences which need close inspection.

The Warblers are ubiquitous ; White-throats, Black-caps, Nightingales, Chiff-chaffs and Willow wrens, Sedge and Reed-warblers, are all familiar English birds, watched for from the first Chiff-chaff of March to the Nightingale a month later. Save for the Black-cap, they are little birds of the plainest plumage, brown, grey, or greenish above, white, ashy, or yellowish below ; while their " warble " varies from the double call of the Chiff-chaff to the far-famed song of the Nightingale. The Indian representatives are many, both in the Plains and the Hills : but it is difficult to take passionate interest in identifying the species, and I am still content to apply the grouping which sufficed me in the Plains*. Moreover, at least two apparent " Warblers " have meanwhile turned into not-warblers : the Tit-warbler and the Grey-headed Flycatcher both gave me many hours of futile hunting among *Sylviidæ*. I think anyone with a fair

* Cf. p. 49.

amount of leisure for bird-study would be best-advised to make out groups in the Plains in the early part of the breeding season, when the White-throat and the Wren-warblers, at least, are frequent in gardens, and to turn to the Fauna when they have sufficiently accurate observations to attempt to determine species.

MAINLY FLYCATCHERS

THE next four small families of Passeres—Shrikes, Orioles, Grackles and Starlings, are represented better in the Plains than in the Hills, although the Hill or Jungle Myna* is common and easily recognised as a myna, his chief distinctive feature being his fringe-like flattened crest. The Grackle, Jerdon's "Nepal Hill Myna", I know best as a pet of my Indian friends: it is most friendly and intelligent, and is quite prepared to learn English. But a genus of very beautiful birds allied to the Shrikes and to the Oriole (which also wanders a good way up the Hills) is *Pericrocotus*, the Minivets. Represented in the Plains by several small species, the genus has its largest and handsomest species, *P. speciosus* (9 in.) common in the Hills, in flocks consisting of a few males, resplendent in geranium-crimson and velvet-black, and many immature and hen birds, with greyish plumage, the breast, and double bands in the wing, canary yellow. Darting flocks of these minivets, as they stream from tree top to tree top, recall, the Long-tailed Tits, which so often form the advance-guard of winter tit-flocks in England;

* *Æthiopsar*.

there is, as Hudson says of the tits, an "arrow-like" directness in their flight.

Family XII.* of the F.B.I., the Flycatchers, is of remarkable extent and variety, and of wide distribution in the Hills. Our common English species, found also in India, the Spotted Flycatcher, shows the habits of the family both in the quiet intentness of its gaze, as it sits on a twig or paling, and in its sudden headlong curving flight followed by an assured snap as the passing fly is secured and the reversed curve brings its captor to the former resting place, where it sits again as if it would never disturb itself.

The Broadbeaked Brown Flycatcher, a sparrow-like species, common in the Hills, closely resembles the Spotted Flycatcher, but white and black, or red and blue, or even pure blue Flycatchers, are also commonly met with. The most beautiful of all, the Paradise Flycatcher, is met with at intermediate elevations, up to about five thousand feet: I was fortunate enough to chance upon it during my first trek into the Hills, between Dehra Dun and Mussoorie. The hen first appeared, a slim copper-coloured bird with black crested head and black wings, and I wondered whether I had met a new type of bulbul: but when she was followed by a bird of similar size and shape but pure white where *she* was copper, and with two long floating feathers of the purest silver-white, drooping like ribbons below his perch, I knew that I had been fortunate enough to meet a pair of Paradise Flycatchers in full plumage. But the turquoise-blue (technically

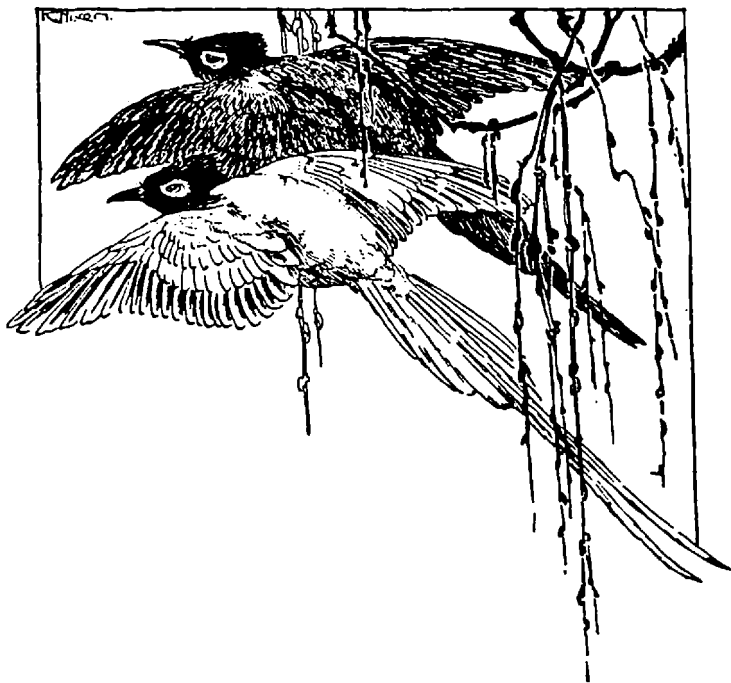
* XI. in second edition.

" Verditer ") Flycatcher *Stoparola*, is equally beautiful in a very different style ; both male and female wear the same vivid blue, varying through all possible shades of turquoise to dull bluish-green, while the black of the matrix is represented in the moustachial stripes and the nearly black beak. Seen in full sunlight, sitting, as they love to, high on the topmost twig of a fir tree, the Verditer Flycatcher is a Blue Bird indeed ; but the moment it plunges into the shadows of the trees, it is lost, becoming part merely of the sky and the shade. It is a friendly bird, and widely distributed ; I have not only watched its nest and its babies in the sloping garden of my hut in the Himalayas at eight thousand feet, but have followed its flight, led by its pleasant little song, from one bush to another in a patch of a *kikar jangal* in the midst of New Delhi.

The darker blue small flycatchers of the *Cyornis* group are many : two that I have learned to distinguish are, *Cyornis superciliaris*, the male, indigo-blue with a white breast which a conspicuous stole-like blackish-blue collar invades ; from the shoulders, the hen dark grey ; and *Cyornis leuco-melanurus*, which is of a palish powder-blue with a dark tail, a wee bird with a wren-like mate.

Next, red and blue flycatchers, *Niltavas*, or Fairy Blue-chats : redbreasted blue birds, a little larger than sparrows, common in thick trees below seven thousand feet, very beautiful and dainty, the blue in shining patches on a duller ground.

But the friendliest, commonest, and most graceful Flycatcher I know is the Blue-and-yellow Flycatcher



PARADISE FLYCATCHERS.

(Grey-headed Flycatcher) ; his head is blue grey, his breast canary yellow, his back and tail dark. He has the size and shape of a willow warbler, goes about with mixed tit flocks or in pairs, has a delightful wren-like song, insistent to be heard, and I believe, darts into the road after flies almost in your face out of sheer bravado combined with friendliness, the very spirit of a robin or of a mischievous urchin. He looks like a mischievous urchin, too, with his large round black eye positively bulging with keenness and his " semi-erectile " crown feathers giving him just that air of a small boy with his hair combed up that a cock-chaffinch has in spring time.

I know one more flycatcher well in N. India, both in the Plains and in the lower Hills, the Black-and-white Fantail Flycatcher, a graceful pied bird about seven inches long, with the convenient habit of fanning its tail as it flies showing the full extent of its black and white feathers and thus announcing its name.

The Flycatchers form a very natural group, all easily distinguished as such—*Musci-capidæ*, catchers of flies—by anyone who watches their manœuvres ; it is impossible to miss the objective of their (parabolic !) curved flights, for their " snap " of satisfaction is unmistakable. Moreover they are easy birds to follow up, for having watched a flycatcher at work in a given spot, you may with good hope return to the same spot at the same time next day ; and, as I have said, you may find that they not merely ignore you but become impudently friendly. Moreover the Indian genera, many though they be, fall into easily distinguishable

groups: (1) mainly dullish blue—*Cyornis*: (2) mainly bright blue—*Stoparola*: (3), mainly brown—*Alseonax*: (4) grey and yellow—*Culicicapa*: (5) red and blue—*Niltava*: (6) sexes remarkably unlike, male black and white, female copper and black—*Terpsiphone*: (7) black and white and fantailed—*Rhipidura*. This scheme, while it does not cover all the genera, covers the commonest and most striking species; and is an example of the way in which one "tidies up" one's knowledge as one goes along.

CHAPTER XI

THRUSHES, CHATS, FINCHES AND OTHER "SMALL GAME"

FAMILY XIII* of the "Fauna", the *Turdidæ*, is the family of the well-known song-birds, Thrush, Blackbird, and Missel-thrush; and this sub-family, the *Turdinæ*, has its representatives in the Indian hills—recognisably "blackbirds", the hens sooty or brown, with yellow bills, the males more or less black with orange bills and with clear whistling songs. *Merula bouboul*, the Grey-winged Mountain Ouzel, is simply a large blackbird with a greyish stripe in this wing, and a song intermediate in quality between a blackbird's and a missel-thrush's. Other genera of the sub-family are as gaily coloured as Hill flycatchers, one genus, *Petrophila* the Rock thrush, having the red and blue plumage of Fairy Chats; but they are true thrushes in form and habit, being rather heavily built middle-sized birds, skulking among shrubs or crevices of rocks yet betraying themselves by song. Moreover, it is the cock only who is gay-coloured, the hen wearing russet.

The Dippers form another sub-family of the *Turdidæ*. The Himalayan Dipper is a heavy wren-shaped bird of sombre plumage, to be seen bobbing on a stone

* X of new Edition.

in the midst of a mountain torrent, or spreading its wings and flirting sprays of water around it.

Other sub-families with which we are already familiar in the plains are the *Saxicolinæ*, the chats, and the *Ruticillæ*, the redstarts. A new chat, very common in the Hills, is the Dark-grey Bush Chat (*Oreicola ferrea*) the cock of which you will prefer to call pied, while the hen looks like a distinct species, showing the rusty tints which account for the specific name *ferrea*. However, when you see a black-and-white stone-chat, showing all the proper chat characteristics of bold shyness—moving before you, two yards at a time only, from one bush top to another—and chit-chatting and tail-clapping, you will find it in close attendance on a rusty-brown red-tailed bird of similar size and shape, and probably you will soon after find the family group increased by three to five youngsters, at first speckly, but soon closely resembling the hen. So then, a Dark-Grey Bush-Chat family circle consists of a pied father, a rusty-red and brown mother, and brownish speckly youngsters.

An attractive member of the Redstart group is the Spotted Fork-tail, which rises with clear ringing call as you startle it from its post beside the mountain torrent. It resembles a large Pied Wagtail with a long fish-like tail. By the same rocky stream you may meet one or other of the Hill Redstarts, both of which have deep blue in their plumage as well as the red tail and lower back of their congeners.*

* Not strictly congeners—the Hill Redstarts are placed in a separate genus, *Rhyacornis*.

A beautiful bird which brings us very close to the finches is the Golden Robin, a gold and black sparrow-sized bird with a rather broad stout bill and a throaty clicking call of four notes ; this bird may be met with on the hill-side where the Bush-chats breed, and seems, like them, rather fond of human habitations.

The finches (Family XV, *Fringillidæ*) are represented in all their variety in India, from the great beautiful Grosbeak (9 ins.) like a glorified hawfinch, to equally glorified sparrows. The Grosbeak draws attention to himself by his call, which has a curious resemblance to the much smaller tinkle of the Golden Robin, whose black and gold colouring the cock-grosbeak sports. I regret to confess that I spent one hill-season calling the Grosbeak the Golden Oriole, and trying to identify his four-note call with the " Koondoo " of the Oriole : quite without excuse, as his heavy short beak is the finch beak in its most marked form, whereas that of the Oriole is long and fine. Moreover the cock and hen Oriole only vary in brilliance, while sexual dimorphism, so well-illustrated by the Paradise Flycatcher and the Minivets, is also exhibited by the Grosbeak, whose hen is a dull creature in chocolate brown and fawn, yet so faithfully accompanies her mate and reproduces him in form and movement as to be unmistakable.

The commonest sparrow of the Hills is a beautiful species, the Cinnamon-headed Sparrow, whose name understates his attractions, for the so-called " cinnamon " is bright pinkish bay, and spreads from the " head " in a broad mantle over his shoulders. He

too is a friendly person, combining the boldness of our domestic species with the greater trustfulness of the Robin. The hen is merely a clean and neat edition of the common hen-sparrow.

Of true finches, the Himalayan Greenfinch is readily recognisable; his green and yellow plumage and his squeaking grating cry—"like a pebble on ground glass" is I think Hudson's characterisation—so closely resemble those of the English greenfinch, that to know one is to be ready to recognise the other.

Buntings are many, and easily recognisable as such by their *structure* and *colour*, stout finch beak, heavy build, rather long tail of black and white feathers, commonly some yellow or orange or at least warm chestnut in their back plumage: by their sedentary and conservative *habits*—yesterday's perch is to-day's, and a bunting only flies in the last resort: by their *cry* which is monotonous and of small musical range. For the rest, species are difficult to sort. I think the commonest one in the Hills is *Emberiza stracheyi*, the Eastern Meadow Bunting, a friendly lazy bird with a head striped with iron grey and black, dark streaky spots on a pale-grey breast, and general plumage warm brown streaked with black. Streakiness is characteristic of buntings; even the glorious Yellow-hammer, with his canary-yellow head and orange rump, has a streaky, sparrow-like wife.

The remaining families of Passeres show no specially interesting representatives in the Hills. Martins and swallows come and go, shifting their range with the insects which are their food. The

Common (European) Swallow, *Hirundo rustica*, has a chest-nut crown and chin, the commoner Indian species has a red rump (*H. erythrogygia*); otherwise both these, and also the Wiretailed Swallow (*H. smithii*) are slim metallic blue birds with conspicuously forked tails, the outer feathers elongated (enormously so in *smithii*) in mature breeding plumage. The martins are smaller birds, with shorter tails, *minus* the elongated feathers.

The pipits of the typical genus, *Anthus*, have a speckly lark-like species, resembling our upland Pipit in its short plaintive monotonous note and its springing running gait, and also in its haunts: I never climbed the rocky grassy slope above my little hut in Dalhousie without meeting it. A new genus, *Oreocorys*, has a slimmer more graceful form and large oval eyes.

Wagtails are frequently seen in the hills and seem for the most part to be nearly related to the European species: *Motacilla melanope*, the beautiful grey and canary-yellow true Water Wagtail, is often found.

"BIG GAME" AND "QUEER FEET"

WE shall skip for the present all the intervening orders from Passeres to that primitive order, the *Gallinæ* or Game birds, so familiar to us all from the far-famed "dab bungalow fowl" and, more pleasantly to our æsthetic sense, that bird of ever miraculous beauty, the Pea-fowl.

The contrast with the Passeres is perfect ; large size, stout legs, heavy body ; short precipitate flights ; raucous calls in lieu of melody (there, the Corvine alliance runs them close) ; finally, extreme brilliancy of plumage in the males, with its two necessary correlates, marked sexual dimorphism and dissimilarity between the nestlings and the adult male form. Not that there is much "nestling" in character ! We all know the sturdy independence of a "nest" which is exhibited by young chicks, and their precocious ability to deal with their own food supply. All these features seem to be bird-in-the-making, whereas the passerine features seem to be bird-at-its-climax-of-development so to speak ; and, with some exceptions, the dozen orders between *Gallinæ* and Passeres show us a gradation in the features mentioned, while those succeeding *Gallinæ* are mostly of even larger and

heavier birds, with "calls" in lieu of songs. I realise that the eminently "fitted for flight" gulls and petrels come late in the series, but fear to embark on a justification of their systematic position.

For the pea-fowl of the Plains, the Hills give us some gorgeous pheasants; the *Chir* and the *Koklas* are well known to all sportsmen, and the Tragopan, rather like a huge guinea fowl but with a red instead of a black, ground-colour, and blue wattles and ear tufts on his black "horned" head, is unmistakable if once seen. But the one I love best, both for beauty and association, is the Monaul, (*nilgur* of the vernacular) the iridescent green and copper-red and turquoise-blue marvel whose stiff racquet-shaped crest-feathers are sacred to the Rajput nobles of Chamba. We were taking a short-cut through the *khud* at about seven thousand feet, in the Dalhousie district, when I had my best sight of a *nilgur* family, first the speckly reddish hen, and the fluffy babies; and I shall not readily forget the shock of pleasure as the sun through the oak branches suddenly revealed the blaze of metallic colours in the cock, which in the shadow, had looked merely a heavily built game bird with a white rump.

I shall go back, now, to the group of orders into which the *Picariæ* of the older school is split in the Fauna; the first small order yields at once a species which, if not common in the Hills, is so striking that it is bound to be observed if seen, and identified if observed—the Longtailed Broadbill,* found at five thousand feet or thereabouts; my one sight of it was

* *Psarisomus dalhousiæ*.

in Mussoorie, by the Water Power Station, where the canny creatures had built a pendent nest from the *lowest* of the wires. Had it depended from the upper one, doubtless the consequences might have been electrocution! On the standard of these wires, the amazing bird sat stolidly while we tabulated its colours—black and "Reckitt's blue" *head*, grass green *back*, some yellow and even orange on the *face* and round the *throat*, *wings* partly blue, *tail* black beneath!—I feel aggrieved that I can't remember any crimson or purple, but perhaps it exists! Clearly if you are lucky enough to meet the Longtailed Broadbill, you will know it.

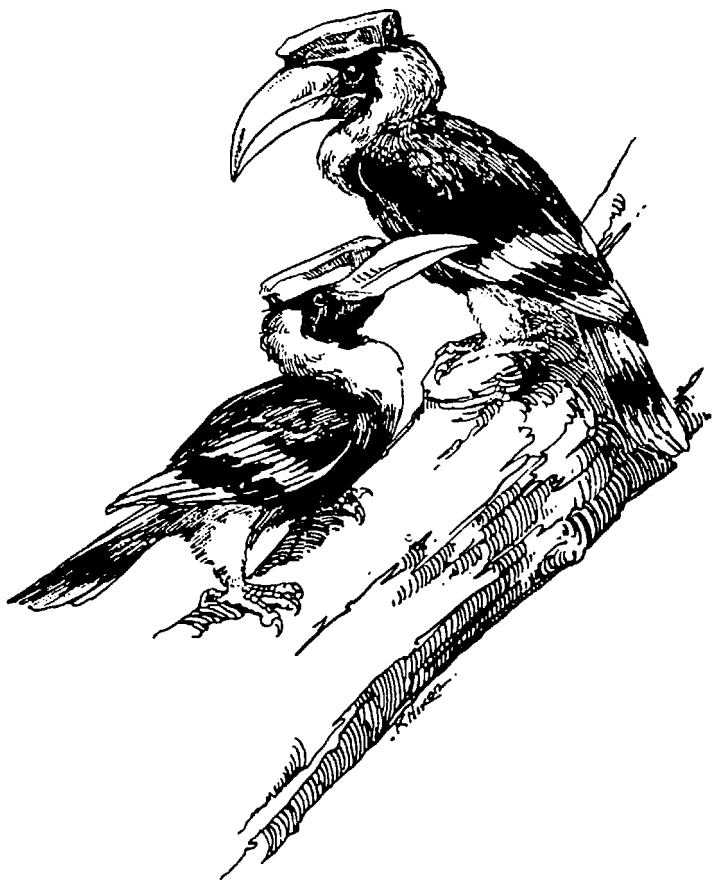
The *Pici*,* woodpeckers, are richly represented in the Hills. All the family characteristics, of long strong beaks, projectile tongue, stout claws, and stiff tail, are constant, but the plumage of the two chief genera differs as in the British ones, i.e., *Gecin* is roughly green, *Dendrocopus* roughly black-and-white; and the size ranges from pigeon-size to sparrow-size. The big Green Yaffle of the Hills (*G. squamatus*, 14 ins.) is called "scaly-bellied" from his lower coverts being light and dark greenish grey in concentric zones, somewhat as the blue and green of a peacock's "eyed" feather is arranged; this *squamated* feathering of breast and abdomen is repeated, but less conspicuously, in the smaller (9.5 ins.) *G. chlorolophus*, but whereas the bigger Yaffle has the typical crimson crown and crest as his most striking colour, the smaller one has a golden neckfrill superadded to red occipital feathers and a

* *Picus*, a woodpecker; *ctr. Pica*, a magpie.

green forehead, so that *chlorolophus*, yellow crest, seems a misnomer or at least understatement.

The other genus has similarly at least two common Hill species: *D. himalayensis*, the Black Woodpecker (9.5 ins.) is the commonest hill-woodpecker in my experience, while *D. auriceps* (8 ins.) is a striking little creature of stripy black and white plumage, with the nape feathers first gold then crimson; the lower plumage is also streaky black and white but with a pink tinge near the vent. *D. himalayensis* is roughly described by his popular name "the Black Woodpecker", but has a crimson crown and vent, and big white spots on the greater coverts and quills. Family groups of the Goldhead show all stages of plumage from a merely dirty-yellow head to the most vivid contrast of gold and crimson and black; I have watched them playing—"Catch as Catch Can" applied to each other's insect prey apparently!—on old oak trees, making little squeaky cries like small puppies.

The family (Order, for F.B.I.) *Zygodactyli* (*yoked* toes—two worked by the same tendon) has one striking and common Hill-species, the great Himalayan Barbet, a near relation of the little Coppersmith of the Plains. This barbet is as brilliantly coloured and eccentrically shaped a creature as the Longtailed Broadbill, but its colours show so cunning a gradation from the dark-blue head through russet red, peacock green, and verdigris to the apple-green tail, that you may look long for it in the evergreen oak in which it sits, upright and motionless, until just as it flies



HORNBILLS.

off with its melancholy "Piou" "Piou" cry, you catch sight either of the vivid green of the rectrices or of the startlingly contrasted crimson of the vent. The build of the bird is like the Coppersmith on a large scale; heavy body, short tail, and beak so heavy as to produce the effect of "forehead villainous low"; both the Coppersmith and the Great Barbet look rather evil birds, though I know nothing against them.

The next bunch of families (Orders, for F.B.I.) lumped into "Picariæ" as "having queer feet" in Chapter VII, includes the *Anisodactyli* (unequal feet): the *Macrochires* (large arms, *i.e.*, wings), the swifts and night-jars, the Trogons, Cuckoos, and the Parrots (*Psittaci*).

The big Black Hornbill* occurs at low elevations in the Hills; numbers of the huge unwieldy beasts were using the trees round Dehra Dun dak-bungalow as a rookery in 1917 when I went "up the hill" to Mussoorie; it is more than twice the length of the Grey Hornbill (*i.e.*, four feet or more) and its beak and "casque" are farcical.

Of the "Large-wings", I have seen no restrictedly Hill species. The big Common Swift seems to be the European one† and, as in the Plains, two smaller ones, one white rumped, one with its chin also pure white, are common.‡ I have also only distinguished a night jar, without being sure whether it differs

* *Dichoceros bicornis*.

† *Cypselus apus*.

‡ *Cypselus leuconyx*: *C. affinis*.

from the Common Indian Night jar of the Plains,* a moth-like creature, dull flecked-brown, save for a white spot on each shoulder which shows well as it wheels above the surface of water or meadow or starts up from the fern tuft at your feet in the twilight.

Cuckoos are many in the Hills; I have often heard the calls of three true cuckoos and the "Brain-fever Bird" in the course of one walk: (1) "coo-coo", the Common European Cuckoo; (2) "tongtangvyang", a drum-like sound, the Himalayan Cuckoo; (3) "kypphulpakka", which some people make "broken Pekoe", the Indian Cuckoo; and, lastly, "peepeeha", which we call "brain-fever", the Small Hawk Cuckoo. They are all slim more or less grey birds, a foot or a little more in length, the three true cuckoos barred, iron-grey on white, beneath; the Hawk Cuckoo of a uniform fawny grey beneath fading to white on the belly. The best way to distinguish the other three is either to see them and wait for the call, or to hear the call and follow; but "Tongtangvyang" is quite markedly the smallest

Finally, for this chapter of "queer feet", the parrots (*Psittaci*) which, like primroses in England in spring, are so common that we can't see their beauty. The Hills seem to have four species, of which I have only watched two, though I think I have also seen the Large Paroquet, *P. nepalensis* and the Slaty-headed, *P. schisticeps*. I even thought I possessed *schisticeps*,

* *Caprimulgus asiaticus*.

but it turned out to be a young male of *P. cyanocephalus*. This beautiful little creature, well named Blossom-headed, is as common in the W. Himalayas—in large flocks or small family parties—as is the Rose-ringed Paroquet in the Plains. Although only $2\frac{1}{2}$ ins. less in total length than *torquatus*, it is a much smaller bird, the tail, and especially the elongated blue middle tail feathers, white tipped, accounting for two-thirds of the length; and no adjective but elegant, in the old-fashioned sense, seems fitting to these flower-like birds. A family party of them, seen between Khajjiar and Chamba in August, showed as many tints as a bed of sweet peas; the hen has a lavender-blue head, the adult cock one of all tints between rose-pink and plum-purple, and the young males range from the female plumage, with a yellow ring marking off the lavender head from the green body, to the male, where the deepest plum colour merges in a narrow black necking. As they take flight, new beauties appear,—the under wing-coverts of all delicate yet vivid shades of green, from greyish malachite to the green of young primrose leaves, and the shorter tail feathers lemon yellow. Wonderful birds, these Blossom-heads; an intimate acquaintance with one, found crippled as a nestling and tamed, would demand a separate chapter on “Parrot Psychology” if I were not being severely systematic in this book.

But indeed the groups of birds brought together in this chapter*, together with the Corvine birds, would

* Orders II to IX, excluding Trogones, of F.B.I.

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probably yield most interesting problems to the comparative psychologist: the nesting habits of the "Purdah birds", the comparison of parasitic with non-parasitic cuckoos, and the assumption of human speech combined with more than human acumen by the parrots, and some of the *Corvidæ*, to mention only three notions which spring to the mind.

TWO STRIKING HILL ACCIPITRES

As the Vultures of the Plains claim so much attention, and as several of the same, or nearly related, species, recur at higher levels, I omitted all mention of Hill Accipitres in the first edition of this book. But this led to grievous disappointment for friends who turned confidently to the index for that, almost legendary, giant falcon of the lofty mountains throughout Europe and Asia, the Ger-falcon or Lämmergeier.*

The Swiss stories of the terrible "eagle" which carried babes from their mother's side to bear them as prey to their eyrie or dash them to a more merciful death in some precipice, are, it seems discredited; but when the huge creature (4 ft. long, 6-7 ft. wing-stretch) sailed over my head from the mist of clouds on Bakrota Mall, and a gory thigh-bone of some cow or buffalo fell with a thud, just missing my head—well, I could not at once feel scientific regret that the giant bird recoiled as hastily from me, as I from it!

The level was about 6,000 ft., and the day a steamy one after heavy rains; the whole of Dalhousie below was hidden in cloud, and the Mall deserted and shrouded in white mist: the Lämmergeier must have had a nasty shock when he found a strange biped barely a wing's sweep below him. So I do not feel that my experience

* *Gypaetus barbatus*.

proves that it was this species which caused the death of the poet Aeschylus by dropping a tortoise on his head. Possibly in both cases the bird was merely carrying out its usual formula for cracking an awkward nut.

My bird was gone into the mist over the *k̄hud* almost as soon as I could raise my head from involuntary ducking ; but two features were so outstanding—and so near—that I can see them still : the black moustache and “ imperial,” and the red eyes. I find from the Gerfalcon I now know well in the London “ Zoo,” that the iris of the eye is merely a deep yellow, and that the red is in the sclerotic (the “ white of the eye ” in less distinguished bipeds) ; but, as that fierce hawk-head hung over me, I would have said two glaring red lamps illuminated the black bristles and the half-open sharply hooked beak.

Another exceptional, and beautiful, accipitrine which I associate with the Hills is the Brahminy Kite, *Haliastur indus*, a much more resplendent creature than its relation, the Pariah Kite, as its silver-white head, neck and lower parts are sharply contrasted with the chestnut of its back and wings. Numbers of these handsome birds, together with their streaky-brown young, congregate round the lake at Khajjiar (and, I expect, other sheets of water at similar heights), and seem to be expert fishers.

For the rest, I have “ stalked ” an undetermined eagle several times in the Hills ; and the Windhover (*Tinnunculus alaudarius*, cf. Ch. IV) is common, wherever I have been between 4,000 and 7,000 ft., in the Himalayas.

BIRD FLOCKS

NOTHING causes the maturing ornithologist more joy and therewith more stimulus to healthy pride and self-emulation, than successive meetings with flocks of mixed species of birds; it is like solving riders after one has mastered the proposition, or coping with an "unknown" in chemistry.

One wonderful morning in the Hills stands out in my memory; a grey morning, and the evergreen oaks loomed through the mist one after the other as I went for an early round of the Mall. Soon a Black-headed Jay greeted me—then in the tree to which he flew a group of Black Bulbuls stampeded to the higher branches before his noisy advent—then, as the clattering bulbuls scrambled to the furthest twigs and thence away into the mist on the hillward side of the road, a flight of fairy-like tiny forms passed with twitterings as small, into the deserted *khud* side. They seemed countless as they came, and all alike small; but before they moved on I was able, even in the mist, to distinguish the three commoner tits, (Green-back, Black-crest and the greenish Tit-warbler), several Gold-crests, a Tree-creeper or two, a little group of Nuthatches, keeping nearer the heart

of the tree—rather dilatory, these, ambling along in the wake of the rest—and, finally, one handsome Cinnamon-headed Sparrow, looking very large and robust among his diminutive neighbours. The whole party had passed on in a few minutes; small birds are restless creatures; but the glow of enjoyment is yet with me as I write in London years later.

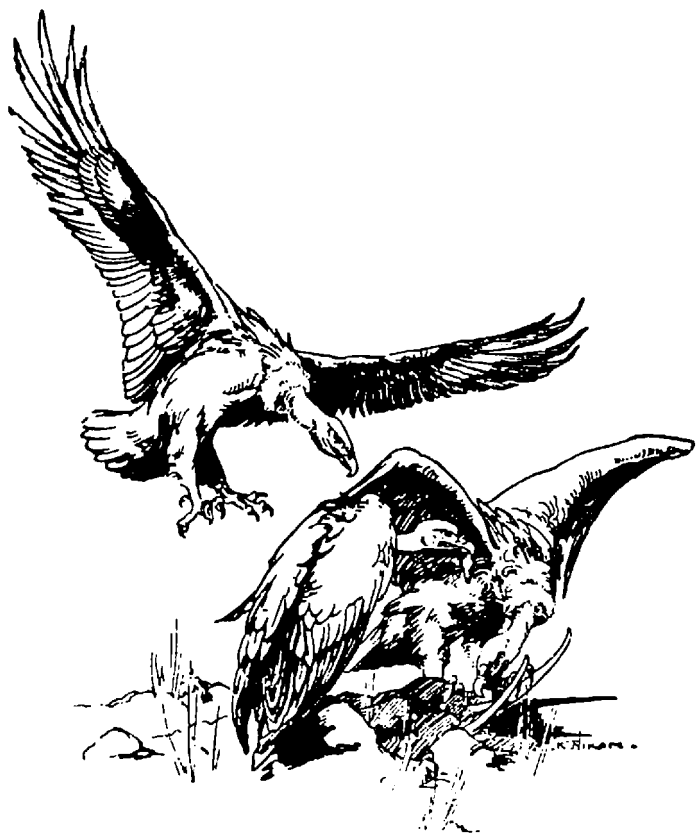
Another still more beautiful flock, of differing composition, came to a stage in its foraging by a lily-glade where I stood, silenced already by the beauty of the scene before me; tall red-stemmed pines, blue-foliaged, rank undergrowth of raspberry canes and briar roses, and, in a grassy patch beside the path, tall lilies, scenting the morning. Into the stillness came the whistle of *Myiophonus*, the Schoolboy Thrush; then while I peered through the bushes to the other side of the stream, whence the sound came, a "flight of arrows", feathered with the scarlet and black, yellow and grey, of cock and hen Large Minivets, dashed past my head, and the graceful creatures, heeding me not at all, hunted and swayed in the pines on the steep slope below; as they passed on, their place was taken by a mixed flight of tits, including, this time, a few of the large Yellow-cheeked ones with tall crests; while just below them in the bushes a family of Variegated Laughing Thrushes puzzled me with their improbable assortment of hues.

The tiny Red-headed Tits are frequently met with in large unmixed flocks; but I have found them also in the most mixed society. One most fruitful (or rather "birdful") corner at about seven thousand

feet elevation, where two steep slopes met with the stream flowing between them, always showed me at least Tit-flocks, but also, on two successive occasions, mixed flocks including, as well as Redcaps and Black Crests, Nuthatches, Minivets, the Grey-headed Flycatcher, the Tit-warbler, Tree Creepers, and also, though quite independent of the others in his movements, the Verditer Flycatcher.

Woodpeckers often go about in fair-sized family parties: the Brown-fronted Pied (*auriceps*, "gold-head", is a much better adjective) Woodpecker puzzled me two summers running, as the fully developed young were playing "all by themselves", so that my first entry ran: "Two species small pied woodpeckers seen:—(1) Small, 7 ins., dirty yellow foreheads, pinkish vent, rest of plumage black and white; (2) larger, 8—8½ ins., forehead and nape gold, lower nape scarlet, vent carmine"—i.e., quite fair descriptions of (1) the young, and (2) the mature, plumage of *Dendrocopus auriceps*. I have seen similar mixed parties, showing much variety of plumage, of the smaller green woodpecker, *Gecinus chlorolophus*, in which the young look merely greenish, while the "grown-ups" have a golden neck frill as well as a red occipital crest.

All birds naturally hunt together in family parties for a shorter or longer period after the breeding season; these families are particularly conspicuous when the birds are big and noisy, as in both species of Hill jays and magpies, the Black-headed Sibilas and Black Bulbuls, and the less noisy but striking Black-and-Gold Grosbeak. In the Plains, birds are generally



GRIFFON VULTURES FEEDING.

fruit or seed marauders, *e.g.*, the long-tailed beautiful Rose-ringed Paroquets "too well known to need description" in fruit and vegetable gardens, and Rose-coloured Pastors ("jowari birds") on the flowering shrubs and trees in the spring. These latter certainly seem to affect the "scarlet trees" of R. L. S., the coral-flowered Leafless Caper, *dhak*, orange-flowered *Tecoma undulata* (for which I do not know a popular name), and the "silk cotton" tree (*Bombax*); and all these, lovely in themselves, become yet more attractive when inhabited by troops of glistening greenish-black and salmon-pink starlings. The "long erectile crest" too often is perversely inconspicuous, and even the "rose or salmon-pink" may be merely pinky-fawn in many individuals; but if a single mature male shows himself in a fair light the description is justified; and any group of myna-like birds seen rifling berried bushes may be suspected of being Rose-coloured Pastors, especially if their breasts show light in the distance.

I end with a bird flock very characteristic of the Plains of India and of the East in general. "Where the carcase is, thither will the vultures be gathered together"; and I have no more striking memory of bird-hunting than one that three of us, bird-lovers all, made to the disused Mohanmedan burial ground of Delhi lying between the Ridge and the fourteenth century ruins of Qadam Sharif and strewn with all imaginable rubbish to "sort out" the birds that frequent that unsavoury neighbourhood. The vultures alone were worth a visit; not merely "Pharaoh's

Chickens ", *safed gidh* of the vernacular, though those were many, but also the common *gidh*, *i.e.*, the White-backed Vulture (*Pseudogyps*), the *raj-gidh*, or Black Vulture, and the splendid Griffon Vulture (*Gyps fulvus*) with a wing-stretch of six or seven feet and sand-coloured plumage, almost golden in the sunlight. Despite their unpleasant associations, no birds are more interesting to watch, or show more character or intelligence ; and I am not sorry to end on the note of " Call nothing common or unclean ".

For that is perhaps the supreme lesson of the naturalist's training, as distinguished from that of the artist or the scientist : nothing is below his notice, nothing is ugly, equally as nothing is irrelevant or " not in his line ". " They are all thy little brethren ", said St. Francis : and it is with unspeakable gratitude to my " little brethren " that I close this book.

" Ye blessed creatures, I have heard the call
Ye to each other make."

APPENDIX I

Summary of *Passeres* common and characteristic in the Plains or in the Hills of N. India, with references to "*Fauna of British India*", Vols. I and II. Edns. I and II.

ORDER I. PASSERES.

Family I. Corvidæ.

i. Subfamily—Corvinæ.

Types		New Edition			
		No.	Vol.	Page	Vol. Page
<i>Corvus macrorhynchus</i>	Jungle crow	4	I.	17	I. 25
" <i>splendens</i>	House crow	7	I.	20	I. 33
<i>Urocissa flavirostris</i>	Yellow-billed Himalayan Magpie	13	I.	27	I. 43
<i>Dendrocitta rufa</i>	Indian Tree-pie	16	I.	30	I. 48
" <i>himalayensis</i>	Himalayan Tree-pie	18	I.	32	I. 52
<i>Garrulus lanceolatus</i>	Black-throated Jay	24	I.	38	I. 60
" <i>bispecularis</i>	Himalayan (Cinnamon) Jay	26	I.	38	I. 63

ii. Subfamily—Parinæ. [Family Paridæ—in new edition.]

<i>Parus atriceps</i>	Grey Tit	31	I.	46	I. 74
" <i>monticola</i>	Green-backed Tit	34	I.	49	I. 80
<i>Ægithaliscus erythrocephalus</i>	Red-capped Tit	35	I.	50	I. 93
<i>Sylviparus modestus</i>	Tit-warbler	40	I.	53	I. 88
<i>Machlolophus xanthogenys</i>	Yellow-cheeked Tit	42	I.	55	I. 91
<i>Lophophanes melanolophus</i>	Crested Black Tit	44	I.	57	I. 83

Family II. Crateropodidæ. [Timaliidae, 2nd Ed.]

i. Subfamily—Crateropodinæ.

Garrulax leucolophus	White-crested Laughing Thrush	69	I. 77	I. 146
" albigularis	White-throated Laughing Thrush	76	I. 82	I. 153
Trochalopterus erythrocephalus	Red-headed Laughing Thrush	82	I. 89	I. 162
" variegatum	Eastern Variegated Laughing Thrush	90	I. 95	I. 173
" lineatum	Himalayan Streaked Laughing Thrush	99	I. 101	I. 180
Argya caudata	Common Babbler	105	I. 106	I. 198
" malcolmi	Large Grey Babbler	107	I. 108	I. 200
Crateropus canorus	Jungle Babbler	110	I. 110	I. 190

ii. Subfamily—Brachypteryginæ.

Myiophoneus temmincki	Himalayan Whistling Thrush	187	I. 178	II. 178
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iii. Subfamily—Sibiinæ.

Lioptila capistrata	Black-headed Sibia	204	I. 196	I. 296
Zosterops palpebrosa	Indian White-eye	226	I. 214	

iv. Subfamily—Liotrichinæ.

Pteruthius erythropterus	Red-winged Shrike Tit	237	I. 224	I. 330
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v. Subfamily—Brachypodinæ.

Hypsipetes psaroides	Himalayan Black Bulbul	269	I. 260	I. 369
Molpastes hæmorrhous	Madras Red-vented Bulbul	278	I. 268	I. 383
" leucotis	White-eared Bulbul	285	I. 273	I. 390

Family III. Sittidæ.

Sitta himalayensis	White-tailed Nuthatch	315	I. 300	I. 122
" cinnamomeiventris	Cinnamon-bellied Nuthatch	316	I. 301	I. 125

Family IV. Dicruridæ.

<i>Types</i>		<i>New Edition</i>	
		<i>No.</i>	<i>Vol. Page</i>
Dicrurus ater	Black Drongo	327	I. 313
" longicaudatus	Indian Ashy Drongo	328	I. 314
			II. 355
			II. 362

Family V. Certhiidæ.

Certhia himalayana	Himalayan Tree-creeper	341	I. 329	I. 429
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Family VI. Regulidæ.

Regulus cristatus	Gold Crest	358	I. 344	II. 539
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Family VII. Sylviidæ.

Acrocephalus stentoreus	Great Reed-warbler	363	I. 356	II. 388
Orthotomus sutorius	Tailor-bird	374	I. 366	II. 410
Sylvia spp.	White-throats, etc.	—	I. 394	II. 446
Phylloscopus spp.	Willow-warblers	—	I. 400	II. 453
Acanthopneuste	" "	—	I. 411	II. 471
Abornis spp.	Flycatcher Warblers	—	I. 428	II. 493
Prinia spp.	Wren-warblers	—	I. 447	II. 425

Family VIII. Laniidæ.

Lanius lahtora	Indian Grey Shrike	469	I. 459	II. 285
" vittatus	Bay-backed Shrike	473	I. 402	II. 289
" erythronotus	Rufous-backed Shrike	476	I. 464	II. 295
Hemipus picatus	Black-backed Pied Shrike	484	I. 471	II. 305
Tephrodornis pondicerianus	Common Wood Shrike	488	I. 475	II. 312

Pericrocotus speciosus	Scarlet Minivet	490	I. 479	II. 319
„ peregrinus	Small Minivet	500	I. 487	II. 329
„ erythropygus	White-bellied Minivet	501	I. 488	II. 332

Family IX. Oriolidæ.

Oriolus kundoo	Indian Oriole	518	I. 504	
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Family X. Eulabetidæ.

Eulabes intermedia	Indian Grackle	524	I. 511	
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Family XI. Sturnidæ.

Pastor roseus	Rose-coloured Starling	528	I. 518	
Sturnus menzbieri	Common Indian Starling	532	I. 522	
Temenuchus pagodarum	Black-headed Indian Starling	544	I. 532	
Acridotheres tristis	Common Myna	549	I. 537	
„ gingianus	Bank Myna	551	I. 538	
Æthiopsar fuscus	Jungle Myna	552	I. 559	

Family XII. Muscicapidæ.

Muscicapa grisola	Spotted Flycatcher	557	II. 4	II. 202
Cyornis leucomelanurus	Slaty-blue Flycatcher	567	II. 16	II. 219
„ superciliaris	White-browed Blue Flycatcher	568	II. 17	II. 221
Stoparola melanops	Verditer Flycatcher	579	II. 28	II. 239
Alseonax latirostris	Brown Flycatcher	588	II. 33	II. 248
Culicicapa ceylonensis	Grey-headed Flycatcher	592	II. 38	II. 254
Niltava sundara	Red-bellied Fairy Blue-chat	594	II. 41	II. 259
Terpsiphone paradisi	Paradise Flycatcher	598	II. 45	II. 264
Rhipidura albifrontata	Fantail Flycatcher	604	II. 52	II. 277

Family XIII. Turdidæ.

i. Subfamily—Saxicolinæ.

Types		No.	Vol.	New Edition	
				Page	Page
<i>Pratincola caprata</i>	Pied Bush-chat	608	II.	59	II. 26
" <i>maura</i>	Indian Bush-chat	610	II.	61	II. 28
<i>Oreicola ferrea</i>	Dark-grey Bush-chat	615	II.	66	II. 36
<i>Saxicola picata</i>	Pied Chat	618	II.	71	II. 42
" <i>capistrata</i>	White-headed Chat	619	II.	72	II. 43
" <i>opistholeuca</i>	Strickland's Chat	620	II.	73	II. 44
" <i>isabellina</i>	Isabelline Chat	625	II.	77	II. 49
" <i>deserti</i>	Desert Chat	626	II.	78	II. 51
" <i>chrysopygia</i>	Red-tailed Chat	628	II.	79	II. 53
<i>Cercomela fusca</i>	Brown Rock Chat	629	II.	80	II. 54

ii. Subfamily—Ruticillinæ.

<i>Henicurus maculatus</i>	Western Spotted Forktail	630	II.	83	II. 56
<i>Ruticilla rufiventris</i>	Indian Redstart	644	II.	95	II. 76
<i>Rhyacornis fuliginosus</i>	Plumbeus Redstart	646	II.	98	II. 81
<i>Tarsiger chryseus</i>	Golden Bush Robin	653	II.	104	II. 95
<i>Thamnobia cambaiensis</i>	Brown-backed Indian Robin	661	II.	114	II. 111
<i>Copsychus saularis</i>	Magpie Robin	663	II.	116	II. 113

iii. Subfamily—Turdinæ.

<i>Merula bouboul</i>	Grey-winged Ouzel	676	II.	130	II. 130
<i>Petrophila erythrogastra</i>	Red-bellied Rock-thrush	690	II.	143	II. 170
" <i>cinclorhyncha</i>	Blue-headed Rock-thrush	691	II.	164	II. 171

iv. Subfamily—Cinclinaæ.

<i>Cinclus asiaticus</i>	Brown Dipper	709	II.	163	II. 4
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Family XIV. Ploceidæ.

i. Subfamily—Ploceinæ.

Ploceus baya	Common Weaver-bird	720	II. 175
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ii. Subfamily—Viduinæ.

Uroloncha malabarica	White-throated Munia	734	II. 188
Sporæginthus amandava	Lall, Amadavat	738	II. 192

Family XV. Fringillidæ.

i. Subfamily—Coccothraustinæ.

Pycnorhamphus icteroides	Black and yellow Grosbea	741	II. 198
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ii. Subfamily—Fringillinæ.

Carpodæus erythrinus	Common Rosefinch	761	II. 219
Hypacanthus spinoides	Himalayan Greenfinch	772	II. 231
Passer domesticus	Common Sparrow	776	II. 236
„ cinnamomeus	Cinnamon Sparrow	780	II. 240

iii. Subfamily—Emberizinæ.

Emberiza fucata	Grey-headed Bunting	790	II. 252
„ stracheyi	Eastern Meadow Bunting	794	II. 257

Family XVI. Hirundinidæ.

Chelidon kashmiriensis	Kashmir House Martin	805	II. 271
Cotile sinensis	Indian Sand Martin	808	II. 272
Ptyonoprogne concolor	Indian Crag Martin	811	II. 275
Hirundo rustica	Common Swallow	813	II. 277
„ smithii	Wire-tailed Swallow	818	II. 280
„ erythropgia	Red-rumped Swallow	823	II. 283

Family XVII. Motacillidæ.

<i>Types</i>		<i>No.</i>	<i>Vol.</i>	<i>Page</i>	<i>New Edition</i>	
					<i>Vol.</i>	<i>Page</i>
Motacilla	personata	830	II.	290		
"	maderaspatensis	831	II.	291		
"	melanope	832	II.	293		
"	borealis	833	II.	294		
"	feldeggi	836	II.	297		
Anthus	maculatus	841	II.	304		
"	similis	844	II.	306		
"	spinoletta	851	II.	312		
Oreocorys	sylvanus	853	II.	313		
	Masked Wagtail					
	Great Pied Wagtail					
	Grey Water Wagtail					
	Grey-headed Wagtail					
	Black-headed Wagtail					
	Indian Tree Pipit					
	Brown Rock Pipit					
	Water Pipit					
	Upland Pipit					

Family XVIII. Alaudidæ.

Alæmon	desertorum	854	II.	318		
Melanocorypha	bimaculata	859	II.	323		
Alauda	gulgula	861	II.	326		
Mirafra	erythroptera	871	II.	334		
Galerita	cristata	874	II.	337		
Ammomanes	phœnicoides	828	II.	340		
Pyrrhulauda	grisea	829	II.	341		
	The Desert Lark					
	Eastern Calandra Lark					
	Indian Skylark					
	Red-winged Lark					
	Crested Lark					
	Desert Finch Lark					
	Ashy-crowned Finch Lark					

Family XIX. Nectarinidæ.

Arachnechthra	asiatica	895	II.	359		
	Purple Sunbird (Honey-sucker)					

Family XX. Dicæidæ.

Dicæum	spp.				II.	374, etc
	Flowerpeckers					

Family XXI. Pittidæ.

Pitta	nepalensis	923	II.	390		
"	brachyura	933	II.	394		
	Large Nepal Ground Thrush ("Ovenbird")					
	Indian Pitta ("Nowrung")					

APPENDIX II

Formal characters of Passerine Families *abstracted*
from *F.B.I.* (I. 8.)

ORDER. PASSERES.

Group A. *Acromyodi*. Intrinsic muscles of syrinx fixed to ends of bronchi semi-rings; syrinx muscles complex, many pairs.

a¹. Edges of both mandibles smooth save for *one* notch in many species.

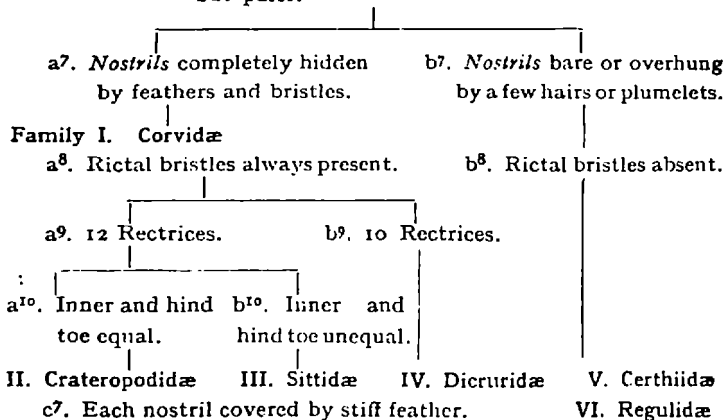
a². Hinder part of tarsus longitudinally bilaminated, laminae entire and smooth.

a³. Wing with 10 primaries, the first notably small.

a⁴. Tongue non-tubular.

a⁵. Nostrils always clear of the line of the forehead: less space between *nostril and edge of mandible* than between the *nostril and the culmen*.

a⁶. Plumage of nestling resembling that of adult female but paler.



b⁶. Plumage of nestling resembling adult female, but brighter.

VII. *Sylviidae*

c⁶. Plumage of nestling cross-barred.

VIII. *Laniidae*

d⁶. Plumage of nestling streaked.

d⁷. With rictal bristles.

e⁷ Without rictal bristles.

c⁸. First primary $\frac{1}{2}$ length of second.

First primary less than $\frac{1}{2}$ length of second.

IX. *Oriolidae*

X. *Eulabetidae*

XI. *Sturnidae*

e⁶ Plumage of nestling mottled or squamated.

f⁷. Nostrils more or less hair-covered.

g⁷. Nostrils not hair-covered.

XII. *Muscicapidae*

XIII. *Turdidae*

b⁵. Nostrils pierced partly within the line of the forehead; the space between the nostril and the edge of the mandible greater than the space between the nostril and culmen.

XIV. *Ploceidae*

b⁴. Tongue tubular. XV. *Nectarinidae*

b³. Wing with 9 primaries.

Bill flat, broad, notched. conical, pointed, entire. long, slender, notched.

XVI. *Hirundinidae*

XVII. *Fringillidae*

XVIII. *Motacillidae*

b². Hinder part of tarsus *transversely* scutellated. XIX. *Alaudidae*.

b¹. Both mandibles finely and evenly serrated on the *terminal third* of their edges. XX. *Dicaeidae*

Group B. *Mesomyodi*. Intrinsic muscles of syrinx fixed at or near the middle of the bronchial semi-rings.

Muscles of syrinx simple, sometimes only one pair.

XXI. *Pittidae*

APPENDIX III

Characters of the Chief Orders referred to in this book (Abstracted from "Fauna of British India").

Order I. *Passeres*.

1. The three front digits flexed by the action of a single tendon (that of the muscle called *flexor perforans digitorum*), and the hind toe by another tendon, quite independently (that of *flexor longus hallucis*). (These two are called the *deep plantar tendons*.)

2. The median bone forming the palate (the *vomer* or plough-share bone) broad and blunt, and the two lateral bones (the *maxillo-palatines*) quite distinct from it and separated by a considerable space.

(Passeres includes half the total number of existing species of birds, that is, more than 6,000 species—about 1,000 of these may be found in India.)

Order II. *Eurylæmi*.

1. Connecting slip (vinculum) between the two deep plantar tendons, hence connected action of the fore and hind toes.

2. The syrinx muscles are few and simple.

Order III. *Pici*.

1. The deep plantar tendons connected, as in Eurylæmi, but *flexor p. digitorum* supplies only the third toe, all the others being supplied by *flexor longus hallucis*.

2. Vomer not single and median, but represented by several lateral rods, the maxillo-palatines small and widely distant.

3. Tongue long and protrusible (in woodpeckers).

Order IV. *Zygodactyli*.

1. Deep plantar tendons as in Pici with the first and fourth toes directed backwards and the two middle digits forwards.

2. Vomers single, forked ; maxillo-palatines joined across middle line.
3. Tongue not protrusible.

Order V. *Anisodactylæ*.

1. The two deep plantar tendons coalesce (except in hoopoes, in which they are free almost to their insertion) either before dividing to supply the digits, or below the point at which a slip leaves *flexor p. digitorum* to supply the hallux : the three anterior toes are joined together at the base, or one of them may be missing, or all four may be joined.

Order VI. *Macrochires*.

Chiefly characterised by—wide gape, long wings with much elongated primaries, and weak feet often with all four digits directed forwards.

Order VII. *Trogones*.

Order VIII. *Coccyges*.

1. Deep plantar tendons normally distributed, i.e., *hallucis* to the hallux (=big toe, first digit) alone, the *digitorum* to the three anterior digits, but differ from the Passerine plan in the presence of a vinculum.

2. Feet zygodactyle, first and fourth digits directed backwards.

(All above from II. to VIII. were formerly united as *Picariæ*, = "Queer Feet" of Ch. XII.)

Order IX. *Psittaci*.

1. Feet zygodactyle, deep plantar tendons as in VIII. : but—

2. The upper mandible has a movable joint, instead of being immovably fixed to the skull ; and

3. The dorsal vertebræ are opisthocœlous (i.e., the body of the vertebra is concave behind).

(That is, the parrots have *deep*, because *bony*, distinctions from all other birds, in spite of superficially resembling the *Picariæ*.)

Order X. *Striges*.

1. Deep plantar tendons picine.
2. Outer toe reversible.
3. Eyes directed forwards, generally very large.
4. Habits nocturnal or crepuscular, and carnivorous.

Order XI. *Accipitres*.

1. As in *Striges*.
2. Feet strong with all four digits powerful and with sharp cutting claws.
3. Bill strong with upper mandible much longer than lower and curved over it.
4. Diurnal birds of prey.

Order XII. *Columbæ*.

1. Tendons as in *Coccyges*.
2. Toes always four, and on the same level; sole more expanded than in *Passeres* but less than in *Gallinæ*; wings well developed and flight powerful.
3. Upper mandible soft at base, covered by skin.

Order XIII. *Pterocletes*.**Order XIV. *Gallinæ*.**

1. Tendons as in VIII., i.e., joined by a fibrous band but normally distributed.
2. Stout bill, strong legs and feet, with well-developed hallux and often a spur on the tarsus above it.
3. Body plump, wings short and rounded; flight precipitate but short-lived. "Ground birds".
4. The young are hatched covered with down, and are able to run very soon.

Order XV. *Hemipodi*.

Little quails with no hallux. Tendons united before subdivision for the three toes.

Order XVI. *Grallæ.*

1. Deep plantar tendons galline save in bustards.
2. Young generally resemble those of *Gallinæ* in precocity.
3. Hind toe absent or raised; legs long; part of tibia bare.
4. Marsh or water-hunting birds.

Order XVII. *Limicolæ.*

1. The hind toe diminishes, the anterior toes tend to be united by a web.
2. The bill varies greatly but is generally slender and elongated; the tibia is naked for some distance.
3. The wings are long and most of the birds strong fliers.

Order XVIII. *Gaviæ.* (Close allies of *Limicolæ.*)

1. Hind toe small or wanting, if present raised above the level of anterior toes.
2. Toes webbed, web excluding hind toe.
3. Bill of moderate length; wings, long and powerful.

Orders XIX. and XX. *Steganopodes* and *Tubinares.***Order XXI. *Herodiones.***

1. All marsh birds, with long bills, necks and legs.
2. Young helpless when hatched, and fed by parents in well-made arboreal nest.
3. Plantar tendons passerine on some Herons and Bitterns, galline as a rule, hence position of order very difficult to determine.

Order XXII. *Phænicopteri*—Flamingoes.**Order XXIII. *Anseres.***

(Ducks, Geese and Swans; a well-marked Order, without any near relations.)

1. The three anterior toes fully webbed, the hallux present but short, and placed higher up on the tarsus.

2. Bill generally flat and curved with a soft sensitive membrane except at the tip of the upper mandible ("nail").

3. *Flexor l. hallucis* sends a slip to hallux and then fuses with *flexor p. digitorum* ; the fused tendon then divides to supply the three anterior toes.

4. Nest made, but young hatched clothed with down and able to run or swim.

5. Very complete moult of quill feathers : helpless period.

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